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Message from the Editor-in-Chief

Dear Colleagues,

We are very pleased to publish Special Issue 3 for INTE 2015 conference. This issue covers the papers presented at 6th International New Horizons in Education Conference which was held in Barcelona, Spain. These papers are about different research scopes and approaches of new developments and innovation in education.

Call for Papers

TOJET invites you article contributions. Submitted articles should be about all aspects of educational technology. The articles should be original, unpublished, and not in consideration for publication elsewhere at the time of submission to TOJET. Manuscripts must be submitted in English.

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September, 2015
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A Comparative Study Of Chinese Traditional Drama And Shakespeare's Works

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INTRODUCTION

It is generally believed that both *Romeo and Juliet* and *Butterfly Lovers* are the most famous love tragedies in their respective countries. The two stories have profound influences on the younger generation in past and present times. Most people might not have read the original versions, but they are familiar with the themes in these two works due to modern day adaptations in mainstream media. Even after so many years, these two works and their various adaptations continue to be linked with concepts of love, destiny and tragedy in popular culture.

The story of *Butterfly Lovers* is set in the East Jin Dynasty almost 1600 years ago. In recent times, the story has gained popularity in both the mainstream media and literary circles due to a new interest in ancient literary works from that era. In the last century, there have been numerous film and television adaptations, including the first silent film based on the story produced in Shanghai in 1926. The story has also served as inspiration for various pieces of classical and contemporary Chinese music.

Romeo and Juliet is one of the most famous tragedies written by Shakespeare. There have been numerous studies of *Romeo and Juliet* from different perspectives and cultures published every day by people concerned about, for example, Shakespeare's writing style and language, the origin of the modern drama, and the structure in Shakespeare's romantic tragedies.

With modernization in communication technology, communication between different cultures has become more and more important. "Cross-cultural communication seems to be an effective way to prevent the calamity that the cultural hegemonies and separatism have brought about to the diverse cultures, because only through communication, the uniqueness of the culture will be understood by the people from different cultures."(魏咪娜 1, 2006)

Classical works of literature which retain their relevance in modern times can help us understand not only our own history, religion and culture, but also those of another country. Despite the rapid pace of globalization, people realize that there are still significant differences in the cultures of different countries, so it is important to understand these differences, and classical works of literature such as *Romeo and Juliet* and *Butterfly Lovers* can help us in this regard. Conducting a comparison between these two works, and identifying their similarities and differences is the first step in understanding their deeper cultural meanings and implications.

Ⅱ Similarity between *Romeo and Juliet* and *Butterfly Lovers*

1. Similar tragic themes

The main themes of the two plays are similar, with love, or more specifically, tragic love being their dominant and most important theme. Another significant theme in both stories is the nature of fate in love. The inevitable nature of fate leads to the tragic endings in both stories.

Love is the main driving force behind the actions of the protagonists in both stories. However, the protagonists' desire for love brings them into conflict with societal and familial expectations.

The developing of Romeo's love was so quick and strong. At the first sight, Romeo can't help himself to appreciate the beauty and he described this feeling
honestly.

Romeo: So shows a snowy dove trooping with crows
The measure done, I'll watch her place of stand
And，touching hers, make blessed my rude hand.
Did my heart love till now? Forswear it, sight!
For I ne'er saw true beauty till this night. (1. 5. 49-52)

After that they knew the identities of each other, great regrets with complex changes in mind, Romeo asked "Is she a Capulet? O dear account! my life foe's debt." (1. 5. 119) meanwhile Juliet told her nurse "Go asked his name. If he be married, My grave is like to be my wedding bed."(1. 5. 136). Knowing the answer Juliet sighed "My only love, sprung from my only hate! Too early seen unknown, and unknow too late!" (1. 5.140). From here we can see the faith between this lovers, "Romeo and Juliet surely give a wonderful sanctity to love." (Edwards 81) In order to be together they willing to sacrifice their lives at the expense, although its too hard for them to dealing with the relationship between families they chose to be faithful to the their nature emotion.

The protagonists in *Butterfly lovers* use a different way to express love, on the way to school Liang Shanbo helped her to find the right direction, during years of study, when unfair things happened to the poor students they stood up for them together, when the master use any sentence to look down upon the women Zhu Yingtai argued immediately. From these indirect contacted with each other, appreciated by the spirits, they build their love gradually. After the death of Liang Shanbo, Zhu Yingtai expressed her heart directly before him, like the following.

Dear brother Liang, it is not I Who is leaving you,
It is the register of karmic affinity that is here at fault!
Dear elder brother, because of me you passed away-Overcome
with emotion I tell you my innermost love! (Idema, 64)

Love is the starting point for happiness, is the continuation of life. As a nature needs for everyone, love, we born with this kind of feeling and want to be loved naturally, However, family conflict, social position, parents arrangement, so many overpowering stresses to the young lovers, but they insist on fighting with the fate "More than any other of Shakespeare's, not even excepting Othello, Romeo and Juliet is a tragedy of unawareness; and more than any other of Shakespeare's, not even excepting Macbeth, it is a tragedy of Fate. Fate is the controlling practiser, and the entire action of the play represents her at work in the details of her housekeeping. "（Evans 22）until the end of their lifes, during this progress these two lovely couples also proved us the emotion between themselves is very precious, this is true love, as we call it nowadays. There is no need to pointing out that universal law by their actions, that is, love is the most powerful thing in universe.

Under the influence of renaissance, Shakespeare himself advocated "humanist" as a symbol of freedom. Romeo and Juliet, as the representative of the Renaissance humanists, reflected their pursuit of the life, ideals, values by their actions. "The tragic conflict in Romeo and Juliet is the struggle between feudal feud and free love." (陈瘦竹 302) Feudal forces as the main governor however, there is no way for them to escape, they can only be combined with their own love buried forever in the end of the play. The story of *Butterfly Lovers* is happened in the East Jin Dynasty, from the play we can see obviously, there are many traces of feudal system. Such as marriage system, legal system, social customs and culture.

"Among all levels of people freedom, first of all, must come true through the spirit world. The freedom of spirit, the movement of ideological emotion, and plenty of fantasy and imaginations, combined with them it is possible to make a free conscious activity nation." (於贤德 5) Cultural background lead us to consider the freedom. that is why peoples kept on fight against the feudal system everywhere. During this special time, environment for us is limited, this kind of social background also can be seen as a foreshadow to the tragic ending.

The tragedy in both stories lies in the fact that both protagonists can love no one else, but at the same time, they are unable to be with each other simply because they were born into a society and family that were unable to accept their love. The protagonists' desire to persist with their love in the face of such resistance is both a sign of the strength of their love, and also the tragic element in both stories. All in all, the fight against fate is the subject we must face for a life time.

2. Similar tragic plots

The plot of the two works is similar too. First, the protagonists in both stories met by coincidence. Romeo met Juliet at a fancy dress party held at Juliet's house, starting with a question to servingman "What lady's that, which doth enrich the hand Of yonder knight?"(1,5,41). when two people meet and sparks strong love willings in each other's eyes, they all forgot family hatred just remember the wonderful date under the moonlight.

While in *Buttery Lovers*, Zhu Yingtai, a female disguised as a men, came across Liang Shanbo in a temple on the way to school while sheltering from the rain. The strength of their love which followed from their coincidental meetings gives the reader an impression that it was their destiny to find and fall in love with each other.

Despite the fact that their meetings were coincidental, the reader is left to wonder whether there was some unknown force in the background such as fate which was working to bring the destined lovers together at that moment.

Secondly, even though the lovers in both stories faced great opposition from the people around them, there were people in both stories who helped the lovers in some form. Both of their love met some small difficulties during the process on love. In Romeo and Juliet, there was a nurse for Juliet who talked her own thoughts about love, which represents the common manner at that time. Also assisted Juliet to confirm her own heart sincerely through conversation like " 'Yea,' quoth my husband, 'fall'st upon thy face? Thou wilt fall backward when thou comest to age; Wilt thou not, Jule? It stinted and said 'Ay.' " (1. 3. 55-57) and "No less? Nay, bigger! Women grow by men." Besides, there was a priest who helped them most to the end, first took the charge of marriage in secret, and then helped Juliet come up with the plan when Romeo banished, after the miss delivered letter, priest explained the whole thing to Prince in the end.

In Butterfly Lovers, Zhu Yingtai's identity as a girl was kept hidden from Liang Shanbo with the help of the maid and the master's wife. The maid at the same age with Zhu Yingtai helped her cover the true face and give messages to Liang Shanbo before and after the grounded by her father. The master's wife under good education background, no only praise her courage to disguise but also admire her when she saw Zhu Yingtai insist on arguing with the master, stand on the position being a mother, she do her best in their daily life.

Third, both of their love faced unavoidable crises and dead in the end and both stories ended with the tragic plot element of the deaths of the protagonists. In *Romeo and Juliet*, two families already fight for years, with the stress from father, Juliet had planned to died by accident, Shocked by that, Romeo was poisoned to death in Juliet's tomb. After Juliet's resurrection from commit suicide, she was so sad and suicide again beside Romeo. In the *Butterfly Lovers*, Liang Shanbo's proposal was rejected, and Zhu Yingtai has pledged to send the master Ma's house, Liang Shanbo was too sad, who couldn't eat for a meal, got sick, the disease caused by sorrow, and eventually die. Standing at the lover's grave and crying, Zhu Yingtai smell the color changed of heaven and earth, just then the tomb suddenly burst, zhu yingtai jumped into the grave and finished double suicide without hesitation

These two stories ended with the tragic plot element of the deaths of the protagonists. In both stories, this tragic ending was used to highlight the extreme opposition the lovers faced from society and family, and also the inability of the lovers to give up on their love. In fact, in *Romeo and Juliet*, Juliet wanted to fake her death as a solution to escape from her family's opposition. However, due to unfortunate circumstances, Romeo believed Juliet's death was real. Unable to live without his love, Romeo proceeded to take his own life as well.

> Romeo: Will I set up my everlasting rest
> And shake the yoke of inauspicious stars
> From this world-wearied flesh. Eyes, look your last!
> Arms, take your last embrace! and lips, O you

The doors of breath, seal with a righteous kiss
A dateless bargain to engrossing death! (5. 3. 111-15)

In the *Butterfly Lovers*, Liang Shanbo was so depressed after learning about Zhu Yingtai's arranged marriage that he passed away from sorrow. In both stories, the death of the protagonists is used to highlight both the impossible nature of their love, and also the strength of the protagonists' love for each other.

Another similarity between both stories is the conflict between the ideals of the protagonists and the traditions and conservatism of society. Under the influence of the renaissance, Shakespeare portrayed *Romeo and Juliet* as humanists, which places a strong emphasis on the needs and desires of the individual. The families of *Romeo and Juliet* played the role of the 'traditionalists' in the story with their inability to accept change and drop old rivalries for the sake of their children.

The traditionalists in the *Butterfly Lovers* are represented by characters such as the main governor, and also non-character elements such as the arranged marriage system, legal system, social customs and culture. Just like in *Romeo and Juliet*, the conflict between the progressive ideal of free love and the traditions of society ends in tragedy for the protagonists.

As a matter of fact, both of them destroyed by the representatives of the feudal force at that time. Under this benefit based relationships, insisting on pursuit for the human nature, the more we showed as dignity and worth as a person, the more we would destroyed. The feudal governor without the noble soul has not been contented by the egoism, utilitarianism and money worship. In spite of death for love, their true heart is so beautiful, their love triumphs over hatred between the feudal force, their love earned a glorious time of humanism spirit and lead to the final victory.

Ⅲ. Differences between *Romeo and Juliet* and *Butterfly Lovers*

1 Different ways to express their love

Romeo and Juliet is a typical western love tragedy with strong personal characters, dramatic conflicts, and up and down plots. Compared to *Butterfly Lovers*, Romeo and Juliet's courtship was far more direct. This can be seen in the speed of their courtship, which took place in less a week. Romeo never hid his love of Juliet from Juliet,

Romeo: I take thee at thy word.
Call me but love, and I'll be new baptized;
Henceforth I never will be Romeo (2. 2. 49-51)

and Juliet returned his love in a similarly direct nature.

Juliet: O, swear not by the moon, th' inconstant moon,
That monthly changes in her circled orb,
Lest that thy love prove likewise variable. (2. 2. 109-111)

In contrast, Liang Shanbo's and Zhu Yingtai's courtship was slower, and the lovers were less forthright with their feelings for each other. When Liang Shanbo and Zhu Yingtai first met, Liang Shanbo believed Zhu Yingtai was a boy, and his feelings for her were that of friendship. Zhu Yingtai continued with her disguise as a boy for three years, and implied her love towards Liang Shanbo through symbols and gestures such as becoming sworn brothers with Liang Shanbo. It was only after three years together did Liang Shanbo find out about Zhu Yingtai's true identity.

Despite the differences in the ways of expressing love in both stories, the protagonists' love for each other in both stories are just as strong. What the differences in the expression of love in both stories can tell us are the different attitudes towards love, marriage, relationships between men and women in both cultures.

In *Romeo and Juliet*, the attitude toward love and marriage is choosing the one you love and then bravely pursuing happiness together at the expense of everything else. The expression of love in *Romeo and Juliet* is direct and enthusiastic, and it also reflects a highly idealistic view of love. *Butterfly Lovers*, on the other hand, takes a view that even though there might be attraction between a man and a woman at first sight, true love between a couple is built through time spent together. The relationship in *Butterfly Lovers* proceeds at a far slower pace than Romeo and Juliet, and the reader is able to savor more moments between the lovers.

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2 Different ways to protect their love

In *Romeo and Juliet*, the protagonists were very active in protecting their love "So intense are the main duologues of Romeo and Juliet in their lyricism that they seem to `carry' the action of the play." (Kennedy 75) from the opposition of their families. The best example of this is how Juliet and the priest came up with a plan to fool her family into thinking she had died. Although the plan failed in the end, it showed Juliet's complete defiance of her family's opposition to her love of Romeo, and how she was willing to try un-orthodox methods to overcome her family's objection. During the progress, they take all actions immediately to protect themselves. "Its completion is generally marked in the mind of the reader by a feeling that the action it contains is for the moment complete but has left a problem. The lovers have met, but their families are deadly enmity." (Bradley 46) This statement reflected in drama on death in the last part, death for both friendship and love.

In the *Butterfly Lovers*, the protagonists were more passive, and more obedient towards their family's wishes. In the end, Zhu Yingtai gave in to her father's wishes for her to marry into the richer family, despite strong protests from Zhu Yingtai and Liang Shanbo. After learning of the arranged marriage, Liang Shanbo descended into a passive depression, and was unable to take any meaningful action to win Zhu Yingtai back. On the other hand, Zhu Yingtai with the new virtues on nowadays view, "She is also portrayed as a courageous and dauntless woman who is brave in resisting feudal traditions and customs and family rules. She disguises herself as a man and goes out for study without caring about the feudal traditions and family rules. "(李桂萍 17) select her own way to eternal their love.

The differences in the actions of the protagonists in both stories do not mean one couple's love is stronger than the other. What could be inferred from the couples' different actions are differences in the culture of the two stories. Shakespeare's *Romeo and Juliet* was written around the year of 1954, during the Renaissance while the *Butterfly Lovers* was set in 400AD, at a time where Confucianism, which emphasized the collective over the individual, played a huge role in culture of the East Jin Dynasty. During the time of the Renaissance, ideas such as the pursuit of individual liberation and freedom were taking hold in society. Therefore, it could be argued that Romeo and Juliet's resistance to the wishes of their family brought about less psychological distress compared to the actions of Liang Shanbo and Zhu Yingtai in *Butterfly Lovers*. If we take into account the different cultural backgrounds in both stories, Liang Shanbo and Zhu Yingtai's passive resistance can seem just as significant as the bolder actions of *Romeo and Juliet*.

Ⅳ Cultural influence on *Romeo and Juliet* and *Butterfly Lovers*

1. Cultural influence on building the tragic characters - take *Butterfly Lovers* for example

"Tragedy, as an important part of Chinese literature, tends to be sad and mild as a consequence of developing under the great influence of the traditional aesthetic views for a long period."(魏咪娜, 16, 2006) Each nation has its own culture, which includes not only race, customs, etc. but also includes ways of thinking, behaviors, and nature of relationships, etc. Given these unique cultural backgrounds, the question is: how does the cultural background during the time of the *Butterfly Lovers* influence the actions of the protagonists? Let's find the answer on the perspective of history.

The East Jin dynasty came after a period of bitter division, and Confucianism played an important role in uniting the people under a single rule, so naturally, the culture during the time of the *Butterfly Lovers* was heavily influenced by Confucianism. There is a lot of structure and hierarchy in a Confucian society. People's status in society was determined by birth, and many details of a person's life, including love and marriage were determined by Confucian expectations. There were definitely many benefits of adopting Confucianism, but the story of *Butterfly Lovers* showed the inflexible nature of Confucianism, and its intolerance of non-conformity.

In the story, Liang Shanbo's father died at a young age. In a society which places such a high value on family background, the death of his father was a big blow to Liang Shanbo's social standing. The death of his father and loss of social status led to Liang Shanbo's inferiority complex, and his passive and cautious personality. Ultimately, Liang Shanbo's poor social status was the main reason why he and Zhu Yingtai, who came from

a privileged position, were unable to be together. The inflexible nature of Confucianism also meant Liang Shanbo was never able to escape from his low social standing. No matter how much he and Zhu Yingtai loved each other, their love could never be accepted by the rest of society.
On the other hand, Zhu Yingtai, who was born into a privileged family, was never burdened like Liang Shanbo, and thus developed an optimistic and idealistic personality who was willing to fight against the expectations of society, believing she and Liang Shanbo will ultimately be together one day. This kind of ending accepted by most of us because that "Chinese classical tradedy pay more attention to ethical significance and disregard the individual personality, emphasis on rationality control to emotion and suppress the resist conflict in behavior." (魏咪娜,1, 2009)As a result, original culture influenced the tragic characters through control their ideologies to life gradually.

2. Cultural influence on discovering the meanings of tragedy - take *Romeo and Juliet* for example

There is a saying by some scholars which goes "simply the Fates have taken this young pair and played a cruel game against them with loaded dice, unaided by any evil in men." (Goddard 27) This saying is merely an extreme expression of the widely held view that *Romeo and Juliet*, in contrast with all Shakespeare's later tragedies, is a tragedy of accident rather than of character and on that account a less profound and less universal work.
While the above saying may be relevant to the themes of tragedy in *Romeo and Juliet*, what is most interesting to this study are the themes of love and violence and how they evolve throughout the story. "In it these two mightiest of mighty opposites meet each other squarely - and one wins. And yet the other wins." (Goddard 28) Under this explain, character personalities are matched well to the plot, and dramatic conflicts show us the personality of the characters in enlightening ways.

In addition, the actions of the characters both main and minor encourage the reader to critically consider the morality and culture of the era *Romeo and Juliet* was set in. Romeo changed his won action by Juliet's cousin without moral burden due to death of friend,

> Romeo: This gentleman, the Prince's near ally,
> My very friend, hath got this mortal hurt
> In my behalf-my reputation stained
> With Tybalt's slander-Tybalt, that an hour
> Hath been my cousion. O swet Juliet,
> Thy beauty hath made me effeminate
> And in my temper soft'ned valor's steel! (3. 1. 107-113)

In fact, "the moral lesson is so shaped formally that it becomes the main theme of the drama: the opening scene stops the bitter feud temporarily; the middle act results in two deaths and the separation of the lovers when murderous quarreling breaks out again; the closing scene offers the sacrifice of innocents to wipe out in blood the cursed strife of the old partisans." (Stauffer 29) we can see how culture affects the actions of the individual and how the actions of the individual can bring about changes in culture, "Individualism pertains to societies in which the ties between individuals are loose: Everyone is expected to look after himself or herself." (Hu Wenzhong 524) At this particularly relevant point during the period of the Renaissance, which marked a great change in the attitudes and thinkings of people in Europe.

"In Western countries, 'tragic denouement' of the tragedy has been a golden rule since Aristotle. This is because a serious and tragic denouement can arouse the pity and fear, which can effectively purge the audience's emotions." (黄少华 43) From this we can see the original culture background can decided the character personality though a certain way, and then different character express their love tragedy according to the plot demands, conflict upgrading, and the emotional requires. However there must be death of old fashioned sayings and instead of that, a new kind of thoughts trend with the typical character personalities provide us a new atmosphere for our culture. Same to the literature works, there must be death of characters then we can see the new possibilities, when the changing of main trend in society happens, the wrong sections in the old cultural system will be selected and destroyed, through which we can find out the true meanings of tragedy.

CONCLUSION

Romeo and Juliet is widely known as Shakespeare's best love tragedy. After it was first played on the stage in London, "Shakespeare has the satisfaction of seeing the groundlings moved to emotions far beyond anything before known in the theater."(Hillegass 35) Shakespeare's humanist view that society should care for the individual, maintain the dignity of human nature and equal rights was expressed in dramatic fashion through the story of *Romeo and Juliet*, along with its elements of violence and death.

In *Butterfly Lovers*, we are able to see how culture can affect the actions, mentality and attitudes of people in love. "Why there is a tragedy like this? the answer is contradiction between people's desire for freedom and limited space offered by the feudal system for us. Also the contradiction between independent marriage and arranged marriage. This is the deep roots of tragedy."(华亮,黄怡 1)

Although the struggle of the lovers against their tragic fate was ultimately futile, stories such as the *Butterfly Lovers* bring out the cruelness of the inflexible social hierarchy in Confucianism. Through reading these stories, people might be inspired to change their perspectives and thoughts, which might bring about a new cultural environment.

Looking back to the *Romeo and Juliet* and the *Butterfly Lovers*, it is clear that love is the central theme in both stories, but there exist differences in the attitude towards love, the way love is expressed, and the role culture and society plays in love. The fact that both stories remain popular to this day suggests that the themes of these stories remain relevant in today's society, and that there remain insights to be gained from these two classical works of literature. Therefore, there can be significant benefits in conducting an in-depth study of these two works.

My suggestions to proceed with an in-depth study are as follows. After summarizing the immediate similarities and differences in the two works, look for cultural features that are connected to the similarities, or cultural features which can explain the differences. Finally, use the insights gained through the in-depth study to solve or study a relevant real-life problem. Hopefully, the comparison study will lead to a better understanding of communicating with another culture, and provide new insights on how our own culture will evolve in this globalized world.

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A Computer Game Implementatıon: Indıvıdually Or In A Group

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ABSTRACT
In this research, the effect of playing a computer game individually or in a group on students' academic achievements was investigated. In addition, it was determined that whether students gender significantly differ or not according to playing the computer game individually or in a group. In this study, among the experimental research designs, Solomon research model was used. In the study carried out in the first semester of 2014-2015 academic year at a public school, a total of 90 students took part as 2 experimental (n=45) – 2 control groups (n=45). A science computer game that was played on the internet. Students in experimental groups played the science game as three people in groups in addition to science lessons. Students in control gorups played the game on computer individually. The implementation process lasted 16 weeks. For the analysis of "Academic Achievement Test" ANOVA was used. When the findings from the study were evaluated, a significant difference was determined between students who played the game individually or in a group, in favour of students who played the computer game in a group. As the findings were assessed in terms of gender, there was no significant difference between female and male students in terms of playing the computer game in a group or individually.

Key Words: Science lesson, computer game, students.

INTRODUCTION

Yağız (2007) states that game forms and the qualities of the games changed together with the development of technology; games transferred to many media from computers to mobile phones became a time consuming material for today's children; and exemplifies a research done in 2004. According to this research, while the children used to spend averagely 4 hours at home and in video arcades in the mid 1980's, today, girls spend 5,5 hours for games, and boys spend 13 hours for games among primary and secondary school students. In consideration of the contributions of these games which are becoming widespread fast and very interesting for children, new, different perspectives and techniques have been generated. These new implementations are various activities which motivate the students effectively, take the cognitive processes to the top level, and are introduced to students via educational video games in game-based environment. Nowadays, educational video games are being designed in many areas such as social, historical, military, labor, and health and then are being offered to the users (Doğusoy and İnal, 2006).

Güngörmüş (2007:18) defines educational video games as 'the software programs which are prepared via integrating game features to learning activities in order to achieve educational objectives'. Kaplan-Akıllı (2007:4) define educational video games as 'competition based activities which aim at teaching with motivation through a creative and an enjoyable way, which are limited with specific rules, and which require specific skills'.
Video games including many types which can be single or multi-players require participation for the development of the real skills. Video games achieve this thanks to instantaneous learning (Aldrich, 2009). One can be more active and can participate more in the learning environment where educational video games

are used than one who is passive learner in traditional methods. Thus, it can be seen clearly that a learner can understand the topic easier and improve his/her various skills thanks to the experiences from the virtual world easier in this learning environment (Malta, 2010).

It is apparent that games drawing humanity's interest for centuries are continuing to have an effect in computer media thanks to changing technology and opportunities. The fact that the harmony of many features of video games with the interests, needs and habits of the children today's knowledge era has become the basis of the idea of using video games in education to have an effective and permanent learning. However, it is very crucial to analyze the designing process of the video games and their structures according to learning approaches, and how learning will occur through these video games.
Educational video games, which are designed for the usage of video games for educational purpose, are spreading fast and they are now in front of all of us as a new technology of a possible key for reaching an effective and permanent learning process.

Papestrergiou (2009) indicates the following reasons for strong potency of the educational video games for learning environment:

- Games provide multi-sensory, active, experimental and problem-based learning.
- The obligation of using the previous knowledge for learner in order to step next level supports the activation of the previous knowledge
- Games provide quick feedback to the learner, which let him/her search and learn through the activities.
- Scoring and level mechanisms of the games give the learner an opportunity to go in self evaluation
- Games are also becoming social environments because of their player groups.

Squire and et. al (2004) state that video games are very essential environments because of the fact that they give the learner a chance to be, to think, to discuss and to play the extra ordinary roles in a new world, and the rich virtual worlds realize this situation. According to this, learner experiences concrete realities defined by words and symbols in virtual worlds. Thanks to these experiences and multi medias, he/she is able to understand complex contents without losing connection between summary ideas and real problems. Moreover, the power of virtual worlds in video games also depends on the development of situational learning and some effective social implementations. Towards all these statements, "Is there a significant difference between students' academic achievements according to playing a computer game individually or in a group" is the question of this study. Also as a subquestion, it was determined that whether students academic achievement significantly differ or not according to the common effect of gender and playing the computer game individually or in a group.

METHOD

Research Model

True experimental design was used in the research. Solomon four group design which has two experiment groups and two control groups was chosen in this research. The groups were assigned to the experiment and control groups with draw detachedly. Two of these four group were used as experiment; the other two were used as the control group. Although post-experimental measurements were done in each group, pre-experimental measurements were done only in two groups, one is experiment and the other is control. Learning can occur in the measurement done before the experimental process. Solomon experiment designs are used in order to remove this situation. Solomon four group model is the strongest experiment model protecting both internal and external validity. Symbolic view of the experimental design used in this research is as follows:

Groups	Neurality	Measurement 1		ExperimentalImplementation	Measurement 2	
G1	R	O1.1	O1.2	X	O2.1	O2.2
G2	R			X	O2.1	O2.2
G3	R	O1.1	O1.2		O2.1	O2.2
G4	R				O2.1	O2.2

G1, G2: Experiment Group groups G3, G4: Control Group R: Neurality in composing the

X: Experiment Process O1.1, O1.2: Pre-test O2.1, O2.2.: Post-test

In this design, pretests help the degree of similarity to be known before the experiment, and the arrangement of post test results according to these values. In order to define how effective X, independent variable is, pretest results and posttest results are used together (Karasar, 2005)

Population and Sampling

The population of the research can be assumed as the elementary schools in Mersin province. The sampling of the research is 90 students taken from four 7th grade classes in a state school in Mersin province. There are four classes in the sampling and these classes were assigned with draw as Experiment I (24), Experiment II (21), Control I (22), Control II (23). All of the Science lessons in these experiment and control groups were given by the same teacher.

Data Collection Tools

As data collection tool, 'Academic achievement test' was developed to test the knowledge of the students.

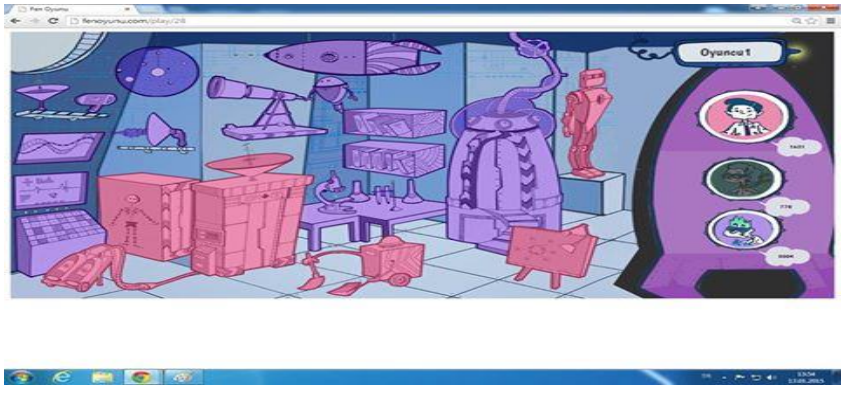
Academic Achievement Test

First, 80 questions from the first 4 units of the 7th grade were collected for the selection of questions used in the game. These 80 questions were thought to be suitable for games. This research was held during the first 4 units. These questions were asked to 108 8th grade students and analyzed at the end of the implementation. ITEMAN 4.0 which is software for the analysis of item and test was used during the analysis process of the questions. Thanks to ITEMAN software, the difficulty level of the questions (p) and point biserial correlation coefficient (biserial) which is used to identify high / low level students were measured. At the end of the analysis, 28 questions whose item difficulty index is between 0, 20 and 0, 80, and whose distinct index is above 0, 30 were chosen. Other questions were removed from the test. Then, the test were analyzed by 2 Science teachers and 3 professors expert in the field, necessary editing was done through their suggestions in order to provide a validity to the test. The reliability of the test was measured using SPSS 22.0 package software, and reliability coefficient was r=0, 78.

Science Game

The game can only be played with three players. At the beginning of the game, three players are paired each other randomly and the games begins. The game takes place in a laboratory. The main aim of the game is to capture the objects in the laboratory. At the first stage of the game, objects are given to the players, who give correct answers to the questions asked. The questions are common. If a player knows the answer, he/she can choose any object he/she wants. After the distribution finishes, the real game starts. The player in turn attempts to capture another player's object. The questions come to the attempting and defending players. Third player watches only. If the player taking the high score is the one who attempted, he/she get the object. If the player taking the high score is the one who defended, it means that he/she could defend his/her object, and enables the opponent to pass. The game ends when all the objects belong to one player.

Game Screen



Implementation Process

In order to conduct the research, the elementary schools were analyzed in the borders of Mersin province. A state school which can give their students the opportunity to use computer laboratory effectively, and has

four classes with the same science teacher was chosen as the implementation institution. Interviews were conducted with the science teachers. They were informed about the research and their feedback was taken. On the first day of the first week of the research, pretest was done to the experiment and control groups which were assigned with draw.
On the second day, science game was introduced to the students in experiment and control groups, and information about the rules and steps of the game was given by the science teacher. In the implementation process, lessons were given with the same procedure in both experiment and control group classes. The game was played an hour once a week so they played the game 16 hours totally. The game was played in a different class hour, not in the science lesson hour.

In experiment groups (2), the students were threesome and groups of three students played the game together. But in control groups (2), each student had one computer and they played the game individually. Before the game starts, a student can start the game as a new player or can continue the game with the same name. The students who were sitting with groups of three use multi user option. During the implementation, the science teacher of the school guided students. The implementations lasted 16 weeks. During the week after the implementation finished, pretest was done as posttest to the 4 groups (2: Experiment, 2: Control).

Data Analysis
The equation of experiment 1 and control 1 group students' academic achievement, pre-test scores were analyzed. For this, independent samples t-test was used. Then students' academic achievement scores in four groups (2 experiment- 2 control) were analyzed by One-way analysis of variance (ANOVA). ANOVA was used to determine whether there is a significant difference between academic achievement post-test scores of the students playing the computer game in a group or individually. And also two way ANOVA was used to determine whether students academic achievement significantly differ or not according to the common effect of gender and playing the computer game individually or in a group

FINDINGS
Findings were given below according to the research question and sub-question. To test the equality of groups before the implementation, academic achievement test, pre-test scores, mean, standart deviation and independent t-test results were given at Table 1.

Table 1. t-test Analysis of Academic Achievement Pre-test Score, Mean and Standard Deviation Values of Experiment 1 and Control 1Groups

Groups	N	$\overline{X}$	sd	df	t	p
G1	24	40.33	8.89	44	.521	.605
G3	22	41.63	7.96			

As seen in table 1, before computer game implementation, mean of experiment 1 group (G1) is 40.33 and control group 1 (G3) is 41.63. According to the independent t-test analysis of academic achievement pre-test score, there was found no significant difference between experiment and control group students (p=.605).
Findings of the question "Is there a significant difference between students' academic achievement according to playing a computer game individually or in a group" was given at Table 2:

Table 2. One-Way Analysis of Variance (ANOVA) Results of Academic Achievement Post-test Score According to the Groups.

Source	df	SS	MS	F	p	Meaningful Difference
Between Groups	3	1424.53	474.84	6.51	.001	**G1-G3** **G1-G4**
Within Groups	86	6272.75	72.93			
Total	89	7697.289				

As seen in table 2, one-way analysis of variance technique (ANOVA) was used so as to determine whether students' academic achievement levels show a significant difference according to the group variable. At the end of the analysis, the difference according to the group variable was found statistically significant (F= 6.51; p<.05). According to the results of post hoc tests, significant difference was found in favor of students played the computer game in a group ($\overline{X}$ =83.75) than individually (G3 $\overline{X}$ =74.81, G4 $\overline{X}$ =75.47). This result can be because of group interaction. When the students played the computer game in a group, group members could be motivated the others during the game.

The sub-question of this study was indicated as "whether students academic achievement significantly differ or not, according to the common effect of gender and playing the computer game individually or in a group. According to the analysis of this sub-question, two-way analysis of variance (ANOVA) results were given at Table 3:

Table 3. Two-Way Analysis of Variance (ANOVA) Results of Academic Achievement Post-test Score According to the Common Effect of Gender and Playing the Computer Game Individually or in a Group

Source	df	SS	MS	F	p
Groups	3	1405.69	468.56	1.11	.347
Gender	1	376.78	376.78		
Groups*Gender	3	232.68	77.56		
Error	82	5689.70	69.38		
Total	90	570652			

As seen in table 3, it was seen that there was no significant difference according to playing the computer game individually in a group among the female and the male students. (F =1.11; p > .05). This can be because of all students, male or female, doesn't matter, interest on technology and playing diffrent games on the computer. Though all of the male and female students have the same situations and chance during the instruction. And this can be also because of all students want to have fun during learning by playing the computer game.

RESULT

Today, the children's intense interest on video games and their habit of spending their most of the time in front of these games have brought the idea of utilization from video games in education. It's observed that particularly in recent years, researches on this field have increased notably not only in Turkey but also in the world because of the idea that video games may offer both education and fun together. In this research, the effect of video game played with groups or individually on the academic success of the students. Moreover, it's determined that whether students' playing the video game with groups or individually has a significant difference or not according to the gender. As the findings were analyzed, it's observed that there is a significant difference between the students who played the video game individually and those who played with groups, in favor of the students who played in groups. When the literature was analyzed, no research comparing those playing in groups with those playing individually was encountered with. Researches are mostly comparisons of video game based instruction with traditional instruction. For instance, Obut (2005) analyzed the effect of individual instruction with educational video games and traditional instruction on student success. A total of 70 students at 7th grade participated to the research, and experiment and control groups were determined randomly. In the research, a new video game soft ware, which is suitable for the content was created in the computer. This was going to be used in experiment group. According to the findings of the research, it was observed that the instruction through educational video games were more successful and effective than the traditional method.

When the findings were analyzed in terms of gender, it was observed that there is no significant difference among the female and male students with regards to playing video game with groups or playing individually. According to the literature, there are researches on the effects of gender on perspectives to video games. For instance, İnal and Çağıltay (2005) found that some factors effecting the students' video game playing habits and preferences are level of income, having his/her own computer, socio-economic condition of the place she/he lives in, and gender. In another research, Kinzie and Joseph (2008) searched the game playing preferences of the students in the prime school and in the second stage, and suggested some game designs.

In the study, it was observed that contrary to the male students, female students have more positive attitudes to the problem solving games and social games; however, the difference was not statistically significant.

According to the results of this study, parallel to the other research results, computer games must be used during the instruction in science lessons and also in other lessons. Other researchers, must study in other lessons using the computer games and the research results must be compared. While using computer games during the instruction, students must play the computer games in a group with 2-3 members rather than playing individually.

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A Content Analysis Study About Stem Education

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ABSTRACT
The aim of this study is to evaluate the studies about STEM education in mathematics and science disciplines between the years of 2010-2015 through content analysis. For reviewing the reached studies five criteria were used: publication year, disciplines (mathematics, science, and science and mathematics), methodology (qualitative, quantitative and mixed), research areas, and participants. Articles which were accessed from internet in full text, especially were indexed in SSCI (Social Science Citation Index). A total of 51 articles were included in the research. STEM, STEM education, science and mathematics education search terms were used. The findings of the study provided that most studies conducted in 2014 and 23 articles were also related the teaching-learning research field.

Keywords: Content analysis, STEM Education, science and mathematics education

INTRODUCTION

In recent years science, technology, engineering, and mathematics (STEM) education has received a great deal of attention (Bybee, 2010). STEM is an acronym that defines the study of Science, Technology, Engineering, and Mathematics (STEM). This term created by Judith Ramaley. Around the year of 2001, the term Science, Mathematics, Engineering, and Technology (SMET) changed to STEM. Because STEM's sound is nicer and science and technology have supported mathematics and engineering (Sanders, 2009). STEM is a new, whole discipline and associates with other disciplines (Morrison, 2006).

America National Research Council (NRC) (2011) gives importance to education in the STEM disciplines and because of the reduction of the number of graduate students from these disciplines. Provision of scientific and economic superiority in a country depends on trained individuals in science, technology, engineering and mathematics disciplines and the supporting of their education (Raines, 2012). Therefore STEM education is considered important for economic growth and scientific progress (Lacey & Wright, 2009). Petroski (2010) also stated that STEM Education plays a vital role for the development of society and protection of our real life's quality.

Since the last 10 years, STEM is an issue being discussed in the international arena (Bell, 2015). But there was no clear consensus about the definition and significance of STEM education (Bybee, 2013), researchers have different views about the objectives of STEM education (Lin & Williams, 2015) but scientific and technological literacy standards such as International Technology Education Association [ITEA] (2007), National Research Council [NRC], (2012) have focused on its interdisciplinary perspective and integration of these disciplines.

Science education in the STEM educational context aims to discover the nature and understand it properly (NRC, 1996), the goal of technology education is to demonstrate that technology meet people needs with natural world (ITEA, 2007), thanks to engineering education people benefit from nature and use limited resources effectively (Accreditation Board for Engineering and Technology, 2002), mathematics is a language for presenting science, technology, and engineering disciplines and their relationship (American Association for the Advancement of Science, 1993).

Various models are available for STEM education researches (Bybee, 2013). In a chosen discipline (science, technology, engineering or mathematics) teachers carry out his course and integrate this course effectively with other STEM disciplines sometimes with social sciences (Lin & Williams, 2015).

STEM activities are examples of constructivist approaches' applications in education and because of its nature STEM education is student-centered (Bransford, Brown & Cocking, 2000). The general approach of STEM education is interdisciplinary. Problem and performance based learning use in teaching and learning. Education integrates with the digital teaching technologies (Lantz, 2009). STEM Education provides students problem solving ability informally, and then in school students practice their knowledge creatively and can

solve more complex problems (Meyrick, 2011). The combination of mathematics and science is important for students in middle school because later in advanced courses in high school to show better performance and their careers (Singh, Granville & Dika, 2002).

In line with the above, the purpose of the paper is to give an overview about STEM Education in science and mathematics disciplines over a period of 5 years. In addition, this paper focuses on publication years, research areas, research methods, and types of participants of the articles. The following research questions guided the study:

1. What is the distribution of studies about STEM education between 2010 and 2015 years?
2. What is the distribution of STEM Education studies with regard to their disciplines?
3. In which research areas are STEM Education studies conducted mostly?
4. What are the types of participants included in STEM Education studies?
5. What kind of methods are frequently used in STEM education studies?

METHODOLOGY

This research is a study of content analysis. The aim of the content analysis researches is to investigate the contents of the studies carried out in a particular discipline and understand its development (Apaydın, 2009). In this content analysis study, STEM education papers in science and mathematics education between 2010-2015 years were examined. Related to a specific topic similar data were brought together under themes thus this classification help to understand simply (Yıldırım & Şimşek, 2006).

Data collection process

In this study, to access the STEM education papers, it was benefitted from Science Direct, Scopus, Web of Science, Informaworld-Taylor & Francis web-based service providers. The journals indexed in Social Science Citation Index (SSCI) and Educational Resources Information Center (ERIC) was selected. While screening the articles, "STEM", "STEM education", "science and technology", "engineering and mathematics" search terms were used. The screened articles were selected based on the research in science, mathematics and mathematics and science. The selected papers were open access or accessed their full text from the library of Yildiz Technical University. The names of the papers and other properties of them were presented at the end of this research. The study search was terminated June 5, 2015. A total of 51 articles were included in the research and the search was limited to 2000-2015. All of the studies were published in English language. Detailed information (year, author/authors, title, journal name, etc.) was given at the end of the study.

Data analysis

For coding of the articles, it was studied with a mathematics education expert. To provide the reliability, the papers were reviewed by both researchers together and disagreements about the coding were resolved. Reached papers re-reviewed by other mathematics education expert in accordance with these criteria: limited publication years (the papers were published during the years 2010-2015), suitability to the research disciplines (studies in mathematics, science, and mathematics and science), suitability to the research areas (studies in research areas of teaching tool, teaching and learning, learning strategies, gender, interest and motivation, problem solving), suitability of type of participants (elementary school students, high school students, undergraduate students, teachers, adults).

While identifying the research areas, themes determined by Jayarajah, Saat and Abdul Rauf (2014) were utilized. In the phase of data analysis, studies were classified according to their disciplines, fields of research, research methods, and participants. Data were coded using SPSS 20.0. The results were descriptively presented in tables and charts.

RESULTS

The results are organized in five sections:

1. Distribution of the paper s according to publication years,
2. Disciplines (mathematics, science and science and mathematics),
3. Research areas,
4. Types of participants,
5. Methodology (qualitative, quantitative, and mixed).

Distribution of researches in STEM education

Table 1 presents the distributions of articles by year from 2010 through 2015. The total number of articles reviewed is 51. The maximum number of articles is in the year of 2014 and this year is the most productive year. The number of the articles increase from 2012-2014. As can be seen in Table, there are 4 articles in 2010, 3 articles in 2011, 2 articles in 2012, 12 articles in 2013 and reach a peak in 2014. The number of articles which can be reached until June 2015 is 8.

Table 1. Distribution of articles from 2010-2015

Year	Frequency	Percentages
2010	4	7,8
2011	3	5,9
2012	2	3,9
2013	12	23,5
2014	22	43,1
2015	8	15,7
Total	51	100,0

Distribution of STEM education studies according to disciplines

There are 3 disciplines for this study and researches about STEM Education in these disciplines were examined. Figure 1 describes the distribution of disciplines. Some articles are in both mathematics and science, the highest number of articles published in science discipline (27 researches). This is followed by the science and mathematics (19 researches) and finally mathematics discipline (5 researches).

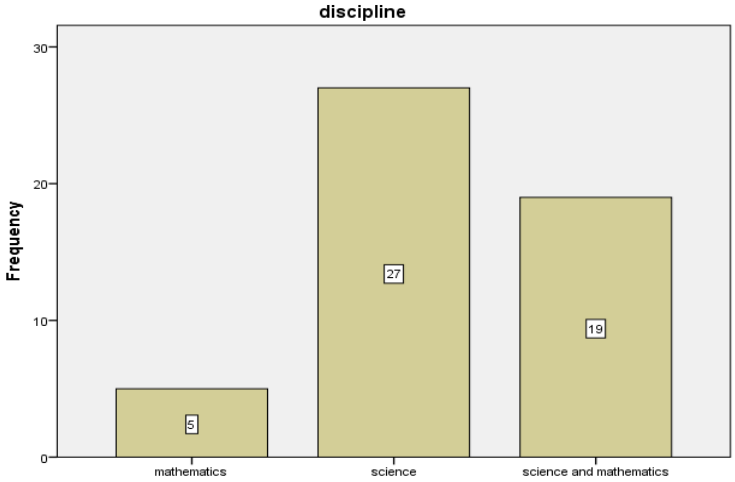

Figure 1. Distribution of STEM education studies according to disciplines

Distribution of research areas of STEM Education studies

In this study, studies in science and mathematics disciplines related to STEM education were examined and classification was made according to research areas. Research areas determined by Jayarajah, Saat and Abdul Rauf (2014) were utilized for this research. Research areas are as follows: teaching tool, teaching and learning, learning strategies, gender, interest and motivation, problem solving and other issues. Table 2 presents the results of the research area distribution.

Table 2. Research areas in STEM Education

Research areas	Frequency	Percentages
Teaching and Learning	23	45,1
Gender	8	15,7
Interest and motivation	8	15,7
Teaching tool	8	15,7
Problem solving	2	3,9
Learning strategies	1	2.0
Other issues	1	2,0
Total	51	100,0

The highest number of research areas is teaching and learning compared to all other issues. Gender, interest and motivation, teaching tool areas each contribute 15 % to the total number of the research. Problem solving (2 studies) and learning strategies (1 study) research areas are given much less emphasis in science and mathematics disciplines in STEM Education studies. Other issues in this research include the social aspects of STEM education.

Distribution of participants in STEM Education studies

There are 5 types of participants that examined in the research articles. These groups are elementary school students, high school students, undergraduate students, teachers, and adults. The following Table 3 shows the types of participants.

Table 3. Types of participants in STEM Education

Participants	Frequency	Percentages
High school students	20	39,2
Elementary school students	13	25,5
Undergraduate students	12	23,5
Teachers	3	5,9
Adults	3	5,9
Total	51	100,0

According to results of the analysis, a total of 39 % of the articles focuses on high school students. It is clearly seen that 13 papers conducted its study with elementary school students; there are 12 studies carried out with undergraduate students in science and mathematics disciplines. In addition, teachers (3 researches), adults (3 researches) participated STEM Education studies.

Distribution of research methods used in STEM Education studies

Quantitative, qualitative and mixed methods are the main methodological designs for this research. Figure 2 illustrates the distribution of research methodologies in science and mathematics disciplines in STEM Education studies.

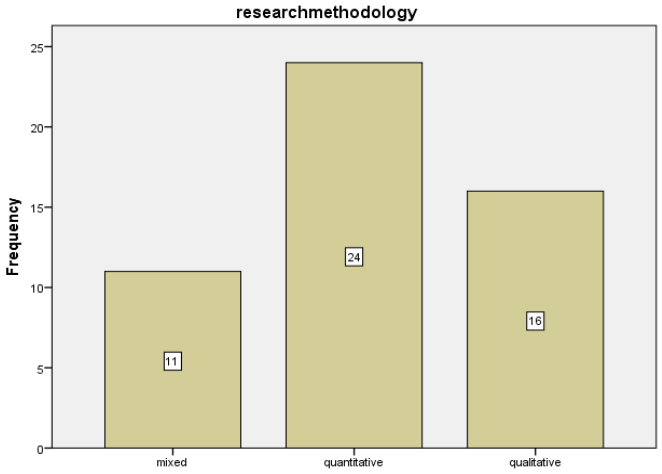

Figure 2. Distribution of research methods used in STEM Education

Regarding the research methods used in STEM Education studies, it is seen that the use of quantitative methods is dominant (24 studies), this is followed by qualitative methods (16 studies) and mixed methods (11 studies).

DISCUSSION AND CONCLUSION

This research examined STEM education studies in science and mathematics disciplines between 2010 and 2015. STEM Education is a newly developing research area so researches in last 5 years were discussed in the study. The number of STEM Education researches has increased rapidly and reached a pick in 2014. The total number of studies conducted in 2010, 2011 and 2012 is 9, in 2013 is 12. Studies published in year 2015 were included until June. In this part of the year 8 studies are existed, so it can indicate that the number of the studies will increase throughout the year. The distribution of studies have shown positive trend. Therefore, STEM education field in recent years have gained importance and shown the characteristic of being a popular topic. The results of this study show parallelism with the results of Bell' (2015) research that STEM studies have increased in the last 10 years. This increase can be due to the discourse of important standards, for instance International Technology Education Association, National Research Council. Thus, educators have published international papers in journals about STEM education from different perspectives.

There are many studies dealing with STEM Education, but we restricted our study with researches carried out in science and mathematics disciplines. Other STEM disciplines (engineering and technology) support the studies. In the field of science education STEM Education studies are more than in the field of mathematics education. Related to this result we can say that science discipline is application area of mathematics.

When reviewed papers evaluated, it can be seen that the papers focused on teaching-learning research areas. Studies related to proposing a program that can be used in science education related to the earth sciences, experiments for flying are examples for this research area. There is a similar result in Jayarajah, Saat and Abdul Rauf' (2014) study. Their research results indicate that teaching and learning in science and mathematics is the most common area compared to other issues. Gender studies evaluated in this research are related to comparison of achievement between boys and girls, and approaches woman to STEM occupations. Technology and education are closely related so studies in teaching tool research areas are common.

The findings related to participants were examined; it was found that the studies are mostly implemented with high school students. This situation may be due to STEM education is more common in high schools. However, studies in primary and secondary levels are increasing. To achieve the goal of STEM education, education should start from the earliest age level. On the other hand, the teachers involved in researches are less. The number of studies conducted with teachers should increase.

A majority of the studies (47 %) use quantitative research method and a total of 16 % employ qualitative research design. The researches which employ mixed method that uses both qualitative and quantitative paradigms are less than other methods for this study and a sum of 21 % of the all researches in STEM Education. Qualitative studies may be more complex and difficult, but they help researchers to learn more

information in detail about a situation. Therefore, the number of qualitative and mixed method studies can be increased.

Also, the following suggestions may be recommended:

In this study researches in especially science and mathematics fields were examined, researches in other STEM fields can be evaluated with same content analysis criteria.

Different criteria, for instance, citation numbers, data collection tools, sampling methods, sample size can also be examined in STEM disciplines in a larger time interval.

Appendix

List of articles included in research

No	Properties of article	Year
1	Wilkerson-Jerde, M., Wagh, A., & Wilensky, U. (2015). Balancing curricular and pedagogical needs in computational construction kits: Lessons from the DeltaTick Project. *Science Education*, *99*(3), 465-499.	2015
2	Lamb, R., Akmal, T., & Petrie, K. (2015). Development of a cognition-priming model describing learning in a STEM classroom. *Journal of Research in Science Teaching*, *52*(3), 410-437.	2015
3	Bevan, B., Gutwill, J. P., Petrich, M., & Wilkinson, K. (2015). Learning Through STEM-Rich Tinkering: Findings From a Jointly Negotiated Research Project Taken Up in Practice. *Science Education*, *99*(1), 98-120.	2015
4	Kiemer, K., Gröschner, A., Pehmer, A. K., & Seidel, T. (2015). Effects of a classroom discourse intervention on teachers' practice and students' motivation to learn mathematics and science. *Learning and Instruction*, *35*, 94-103.	2015
5	Hieb, J. L., Lyle, K. B., Ralston, P. A., & Chariker, J. (2015). Predicting performance in a first engineering calculus course: implications for interventions. *International Journal of Mathematical Education in Science and Technology*, *46*(1), 40-55.	2015
6	Itzek-Greulich, H., Flunger, B., Vollmer, C., Nagengast, B., Rehm, M., & Trautwein, U. (2015). Effects of a science center outreach lab on school students' achievement–Are student lab visits needed when they teach what students can learn at school? *Learning and Instruction*, *38*, 43-52.	2015
7	Rau, M. A., Michaelis, J. E., & Fay, N. (2015). Connection making between multiple graphical representations: A multi-methods approach for domain-specific grounding of an intelligent tutoring system for chemistry. *Computers & Education*, *82*, 460-485.	2015
8	Burgin, S. R., McConnell, W. J., & Flowers III, A. M. (2014). 'I Actually Contributed to Their Research': The influence of an abbreviated summer apprenticeship program in science and engineering for diverse high-school learners. *International Journal of Science Education*, (ahead-of-print), 1-35.	2015
9	Pietsch, R. B., Bohland, C. L., & Schmale III, D. G. (2014). To Fly or Not to Fly: Teaching advanced secondary school students about principles of flight in biological systems. *Journal of Biological Education*, *49*(1), 53-63.	2014
10	Fakayode, S. O., Pollard, D. A., Snipes, V. T., & Atkinson, A. (2014). Offering a Geoscience Professional Development Program To Promote Science Education and Provide Hands-On Experiences for K–12 Science Educators. *Journal of Chemical Education*, *91*(11), 1882-1886.	2014
11	Evans, M. A., Lopez, M., Maddox, D., Drape, T., & Duke, R. (2014). Interest-Driven Learning Among Middle School Youth in an Out-of-School STEM Studio. *Journal of Science Education and Technology*, *23*(5), 624-640.	2014
12	Bamberger, Y. M. (2014). Encouraging Girls into Science and Technology with Feminine Role Model: Does This Work? *Journal of Science Education and Technology*, *23*(4), 549-561.	2014
13	Fadzil, H. M., & Saat, R. M. (2014). Enhancing STEM education during School Transition: Bridging the gap in science manipulative skills. *Eurasia Journal of Mathematics, Science & Technology Education*, *10*(3), 209-218.	2014
14	Bokor, J. R., Landis, J. B., & Crippen, K. J. (2014). High School Students' Learning and Perceptions of Phylogenetics of Flowering Plants. *CBE-Life Sciences Education*, *13*(4), 653-665.	2014

15	Legewie, J., & DiPrete, T. A. (2014). The high school environment and the gender gap in science and engineering. *Sociology of Education*, *87*(4), 259-280	2014
16	Wilson, Z. S., McGuire, S. Y., Limbach, P. A., Doyle, M. P., Marzilli, L. G., & Warner, I. M. (2014). Diversifying Science, Technology, Engineering, and Mathematics (STEM): An Inquiry into Successful Approaches in Chemistry.*Journal of Chemical Education*, *91*(11), 1860-1866.	2014
17	Berk, L. J., Muret-Wagstaff, S. L., Goyal, R., Joyal, J. A., Gordon, J. A., Faux, R., & Oriol, N. E. (2014). Inspiring careers in STEM and healthcare fields through medical simulation embedded in high school science education. *Advances in physiology education*, *38*(3), 210-215.	2014
18	Ferrare, J. J., & Hora, M. T. (2014). Cultural Models of Teaching and learning in Math and science: exploring the intersections of Culture, Cognition, and Pedagogical situations. *The Journal of Higher Education*, *85*(6), 792-825.	2014
19	Gottfried, M. A., Bozick, R., & Srinivasan, S. V. (2014). Beyond Academic Math: The Role of Applied STEM Course Taking in High School. *Teachers College Record*, *116* (7),	2014
20	Dickerson, D. L., Eckhoff, A., Stewart, C. O., Chappell, S., & Hathcock, S. (2014). The Examination of a Pullout STEM Program for Urban Upper Elementary Students. *Research in Science Education*, *44*(3), 483-506.	2014
21	Cutright, T. J., Evans, E., & Brantner, J. S. (2014). Building an Undergraduate STEM Team Using Team-Based Learning Leading to the Production of a Storyboard Appropriate for Elementary Students. *Journal of Science Education and Technology*, *23*(3), 344-354.	2014
22	Development and Students' Perceptions after Application of a Subject Substitute STEAM Program -Focusing on Energy Unit in 6th Grade Curriculum-*Journal of the Korean Society of Earth Science Education*, 7(1), 119-132.	2014
23	Sahin, A., Ayar, M. C., & Adiguzel, T. (2014). STEM related after-school program activities and associated outcomes on student learning. *Educational Sciences: Theory and Practice*, *14*(1), 13-26.	2014
24	Pride, L. D. (2014). Using Learning Stories to Capture "Gifted" and "Hard Worker" Mindsets within a NYC Specialized High School for the Sciences.*Theory Into Practice*, *53*(1), 41-47.	2014
25	Drane, D., Micari, M., & Light, G. (2014). Students as teachers: effectiveness of a peer-led STEM learning programme over 10 years. *Educational Research and Evaluation*, *20*(3), 210-230.	2014
26	Ware, J., & Stein, S. (2014). Teachers' Critical Evaluations of Dynamic Geometry Software Implementation in 1: 1 Classrooms. *Computers in the Schools*, *31*(3), 134-153.	2014
27	Reamer, A. C., Ivy, J. S., Vila-Parrish, A. R., & Young, R. E. (2014). Understanding the evolution of mathematics performance in primary education and the implications for STEM learning: A Markovian approach. *Computers in Human Behavior*.47,4-17.	2014
28	Christensen, R., Knezek, G., & Tyler-Wood, T. (2014). Student perceptions of Science, Technology, Engineering and Mathematics (STEM) content and careers. *Computers in Human Behavior*, *34*, 173-186.	2014
29	Wiswall, M., Stiefel, L., Schwartz, A. E., & Boccardo, J. (2014). Does attending a STEM high school improve student performance? Evidence from New York City. *Economics of Education Review*, *40*, 93-105.	2014
30	Gray, D. L. (2014). Understanding STEM-focused high school students' perceptions of task importance: The role of "standing out" and "fitting in" in mathematics class. *Contemporary Educational Psychology*, *39*(1), 29-41.	2014
31	Psycharis, S. (2013). Examining the effect of the computational models on learning performance, scientific reasoning, epistemic beliefs and argumentation: An implication for the STEM agenda. *Computers & Education*,*68*, 253-265.	2013
32	Karno, D., & Glassman, M. (2013). Science as a Web of Trails: Redesigning Science Education with the Tools of the Present to Meet the Needs of the Future. *Journal of Science Education and Technology*, *22*(6), 927-933.	2013

33	Tan, E., Calabrese Barton, A., Kang, H., & O'Neill, T. (2013). Desiring a career in STEM-related fields: How middle school girls articulate and negotiate identities-in-practice in science. *Journal of Research in Science Teaching*,*50*(10), 1143-1179.	2013
34	Hughes, R. M., Nzekwe, B., & Molyneaux, K. J. (2013). The single sex debate for girls in science: A comparison between two informal science programs on middle school students' STEM identity formation. *Research in Science Education*, *43*(5), 1979-2007.	2013
35	Kovarik, D. N., Patterson, D. G., Cohen, C., Sanders, E. A., Peterson, K. A., Porter, S. G., & Chowning, J. T. (2013). Bioinformatics education in high school: implications for promoting science, technology, engineering, and mathematics careers. *CBE-Life Sciences Education*, *12*(3), 441-459.	2013
36	Chiu, J. L., Malcolm, P. T., Hecht, D., DeJaegher, C. J., Pan, E. A., Bradley, M., & Burghardt, M. D. (2013). WISEngineering: Supporting precollege engineering design and mathematical understanding. *Computers & Education*,*67*, 142-155.	2013
37	You, S. (2013). Gender and ethnic differences in precollege mathematics coursework related to science, technology, engineering, and mathematics (STEM) pathways. *School Effectiveness and School Improvement*, *24*(1), 64-86.	2013
38	Annetta, L. A., Frazier, W. M., Folta, E., Holmes, S., Lamb, R., & Cheng, M. T. (2013). Science teacher efficacy and extrinsic factors toward professional development using video games in a design-based research model: The next generation of STEM learning. *Journal of Science Education and Technology*,*22*(1), 47-61.	2013
39	Sjaastad, J. (2013). Measuring the ways significant persons influence attitudes towards science and mathematics. *International Journal of Science Education*,*35*(2), 192-212.	2013
40	Eseryel, D., Ifenthaler, D., & Ge, X. (2013). Validation study of a method for assessing complex ill-structured problem solving by using causal representations. *Educational Technology Research and Development*, *61*(3), 443-463.	2013
41	Campbell, K., Overeem, I., & Berlin, M. (2013). Taking it to the streets: The case for modeling in the geosciences undergraduate curriculum. *Computers & Geosciences*, *53*, 123-128.	2013
42	Sadler, T. D., Romine, W. L., Stuart, P. E., & Merle-Johnson, D. (2013). Game-Based Curricula in Biology Classes: Differential Effects Among Varying Academic Levels. *Journal of Research in Science Teaching*, *50*(4), 479-499.	2013
43	Meluso, A., Zheng, M., Spires, H. A., & Lester, J. (2012). Enhancing 5th graders' science content knowledge and self-efficacy through game-based learning. *Computers & Education*, *59*(2), 497-504.	2012
44	Barak, M., & Asad, K. (2012). Teaching image-processing concepts in junior high school: boys' and girls' achievements and attitudes towards technology. *Research in Science & Technological Education*, *30*(1), 81-105.	2012
45	권혁수, 이동국, & 김지숙. (2011). Elementary School Pre-service Teachers' Attitudinal Transition toward Technology and Invention. *실과교육연구*, *17*(4), 201-224.	2011
46	Miller, L. M., Chang, C. I., Wang, S., Beier, M. E., & Klisch, Y. (2011). Learning and motivational impacts of a multimedia science game. *Computers & Education*, *57*(1), 1425-1433.	2011
47	Thiry, H., Laursen, S. L., & Hunter, A. B. (2011). What experiences help students become scientists?: A comparative study of research and other sources of personal and professional gains for STEM undergraduates. *The Journal of Higher Education*, *82*(4), 357-388.	2011
48	Micari, M., Pazos, P., Streitwieser, B., & Light, G. (2010). Small-group learning in undergraduate STEM disciplines: Effect of group type on student achievement. *Educational Research and Evaluation*, *16*(3), 269-286.	2010
49	Le, T., & Gardner, S. K. (2010). Understanding the doctoral experience of Asian international students in the science, technology, engineering, and mathematics (STEM) fields: An exploration of one institutional context. *Journal of College Student Development*, *51*(3), 252-264.	2010

50	Castles, R. T., Zephirin, T., Lohani, V. K., & Kachroo, P. (2010). Design and implementation of a mechatronics learning module in a large first-semester engineering course. *Education, IEEE Transactions on*, *53*(3), 445-454.	2010
51	Boynton, M., & Hossain, F. (2010). Improving engineering education outreach in rural counties through engineering risk analysis. *Journal of Professional Issues in Engineering Education and Practice*, *136*(4), 224-232.	2010

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A Model Suggestion Based On Prospective Teachers' Opinions On Teacher Training Systems

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ABSTRACT
This study aims to propose a teacher training model regarding the teacher training systems in United States (The University of Virginia sample), Finland and Turkey based on the opinions of students enrolled in the final year of Faculty of Education and Pedagogical Formation Education Programme. The study is descriptive and adopts a qualitative research methodology and multiple-case holistic design. The participants are final-year undergraduate students of Education Faculty in Hacettepe University and students of Pedagogical Formation Education Programme. In the research, open-ended question forms were used which were developed by Ateş & Burgaz (2014) as a data collection tool. Descriptive data analysis was used for data analysis. The findings show that students both in Education Faculty and Pedagogical Formation Education Programme share similar opinions and suggestions regarding a new teacher training model.

INTRODUCTION
Teachers have key importance in the education systems. The studies show that qualified and well equipped teachers increase the education quality and efficiency, and thus contribute to societal, economic and political development of countries (Ballard & Bates, 2008; Darling-Hammond, Chung Wei & Andree, 2010; Hanushek, 2009 & 2011; Hanushek & Rivkin, 2012; Hanushek & Woessman, 2012; Harris & Sass, 2007; Tschamen-Moran, Hoy & Hoy, 1998; Yetkiner Özel & Özel, 2013). In this respect, a number of European countries developed policies and practices to train and recruit qualified teachers during the last 10 years (Bracey & Molnar, 2003; Darling-Hammond & Post, 2000). Within the scope of this study, the teacher training systems of Turkey, Finland and United States will be investigated in terms of (1) university entrance requirements, (2) duration of education and training, (3) content of education, (4) school experience and teaching practices, (5) teacher competency and (6) evaluation systems.

When university entrance requirements of each three countries are looked into, prospective teachers in Turkey are placed in Education Faculties on the basis of the scores received from national central exam whereas Finnish candidates are chosen on the basis of their results in written exam, aptitude test, interview and group discussions, and the content of these exams differ among Finnish universities (Ekinci & Öter, 2010; European Commission, 2004; Paksuniemi, 2013; Sahlberg, 2011). On the other hand, the University of Virginia in the United States requires that prospective teachers have at least a 25% rate of success and are asked for reference letters from candidates' high school teachers. The university also requires that candidates have a valid score of SAT (Scholastic Aptitude Test), ACT (American College Testing) or VCLA (Virginia Communication and Literacy Assessment), are successful in interviews, study 2 years at Science and Letters Faculty and have a GPA of minimum 2.7/4.00 so that they could proceed with their studies at Education Faculty (Virginia Dept. of Education, 2012).

When countries are examined in terms of duration of education, Turkey requires eight terms of undergraduate education. In Finland, candidates first complete a six-term undergraduate education followed by a four-semester graduate education and thus they complete a ten-semester education for teacher training (Ekinci & Öter, 2010). In the United States, teacher candidates study ten semesters in total, four semesters at Science and Letters Faculty and this is followed by a six-semester training at Education Faculty.

When teacher training systems are analysed in terms of content of education, the four-year teacher education program in Turkey is composed of 30% of professional teaching knowledge, 20% of general culture and 50% of subject knowledge (Aydın, Şahin & Topal, 2008). In Finland, education provided at Science or Social

Science Faculty is followed by a Pedagogical Formation Training at Education Faculty. In the United States, after the choice of major, the candidate takes courses related to pedagogy and to the school and classroom experience.

Regarding the school experience and teaching practices of selected countries, in Turkey, starting from the sixth term, each teacher candidate observes and participates in educational practice once a week for three years in the context of the "School Experience" and "Teaching Practice" courses (Külekçi & Bulut, 2010). In Finland, teaching practice takes 2 years and is composed of four levels (Ekinci & Öter, 2010, p. 27). In the United States (The University of Virginia sample) teacher candidates start taking the course of "School Experience" in their second year. In the first year of this course, teacher candidates mostly make observations and then in the second year, they are asked to teach private courses aimed at improving literacy skills of students. In the third year of this course, which corresponds to their fifth year in Education Faculty, they start to teach (Külekçi & Bulut, 2010, p. 212; University of Virginia, Website of the Curry Education Faculty).

When teacher training systems are scrutinized in terms of teacher competencies, Turkey identifies six competencies regarding the teaching professions; (1) personal and professional values – professional development, (2) knowing student, (3) learning and teaching process, (4) monitoring and assessing the learning and development, (5) school-family and society relations and (6) programme and content knowledge (MEB, 2008). These six competencies are composed of 31 sub-competencies and 233 performance indicators. Teacher competencies are open to criticisms and suggestions of all stakeholders in Turkish education system and are prepared to be developed continuously. In Finland the programme aims to gain the following competencies: "considering individual differences of students and developing", "cooperation with other teachers", "collaboration with parents, officials and other professionals", "creating a learning environment and preparing materials" and "professional development" (Delibaş, 2007; Ekinci & Öter, 2010, p. 33; Erbilgin & Boz, 2013). In the USA, (The University of Virginia sample) teacher training programme aims to gain competencies of "knowing students better", "being competent in planning, teaching, assessing and evaluating", "creating an efficient learning environment" and " collaboration and effective communication"(Külekçi & Bulut, 2010, p. 212).

Lastly, when selected countries' evaluation systems in teacher training programmes are looked into, it could be seen that theoretical courses are evaluated on the basis of one mid-term and one final exam whereas for practice based courses students' performances are taken into consideration. In Finland, teacher candidates are evaluated both by the Education Faculty and the schools in which they do their internship (Ekinci & Öter, 2010, p. 28; Külekçi & Bulut, 2010, p. 212). In the University of Virginia, teacher candidates go through various and numerous evaluation processes. In addition to the exams, they also sit for the exams required to pass to an upper class. They also submit the portfolios outlining their "school experience" performance at the end of the academic year (Külekçi & Bulut, 2010, p. 212).

The most fundamental problems of teacher education in Turkey are the disagreements and the lack of communication between the Ministry of National Education (MoNE) and universities, and not being able to establish a supply-demand balance due to a number of unplanned regulations (Özoğlu, 2010). This problem is further triggered by the opportunity of employing graduates of Science and Letters Faculties' departments as public teachers. In addition, the problem is deepened by the teacher training programmes that offer evening education programmes and classes.

Lack of adequate number of lecturers and infrastructure deficiencies (such as classroom, laboratories and technological equipment, etc.) can be shown as the main issues of structural problems of Education Faculties. Insufficient number of lecturers leads to an increase in course load which means that academics cannot get adequately prepared for courses and they allocate less time for research. When these problems of Education Faculties are considered, current teacher training programmes are not sufficient in terms of human and physical capital. It should be noted that qualified teacher force that Turkish education system need will not be provided as long as these fundamental problems are not solved. Therefore, taking into account the views of students enrolled in Education Faculty (EF) and Pedagogical Formation Education Programme (PFEP) regarding the teacher training models can contribute to the related literature. Also, it is thought that analysing what students think about the current system can also be guiding.

Parallel to these, the aim of this research is to answer the question of "How a teacher training model can be based on the opinions of final year students in Education Faculty and students in Pedagogical Formation Education Programme on teacher training system in United States (The University of Virginia sample), Finland and Turkey?"

Within the framework of this main aim, the following sub-questions were established:
1. How final year students at Education Faculty and Pedagogical Formation Education Programme assess the following aspect of teacher training in the States (University of Virginia sample), Turkey and Finland?
a) University entrance requirements,
b) Duration of education
c) Content of education
d) School experience and teaching practice
e) Teacher competencies
f) Evaluation Systems
2. What sort of an education model can be formed on the basis of the opinions of final year Education Faculty students and students of Pedagogical Formation Education Programme?

METHOD

Design of the Study

This study is designed in descriptive form and designed according to qualitative research methodology. The current study was formed as a case study. Merriam (2009) defines case study as "an intensive and holistic analysis of an example, situation, phenomenon or a social unit." Case studies are used when a phenomenon is studied within its environment, when the borders between that phenomenon and the context cannot be easily distinguished and when there is more than one evidence or data source regarding the phenomenon to be explained (Yin, 2009). In other words, case studies are more suitable when the proposed research seeks to scrutinise "the phenomenon or situation that is studied" on the basis of "why" and "how" questions (Yin, 2009). In the research, multiple-case holistic design, which is a design of case studies, is used (Yıldırım & Şimşek, 2013).

Participants

The participants of this research are final-year students enrolled in Secondary Science and Mathematics Education (SCME) in Education Faculty of Hacettepe Univeristy during spring term of 2013-2014 academic year and students registered in Pedagogical Formation Education Programme (PFEP) between February and July 2014. Both groups were students of maths, biology and chemistry education.

Table 1. Participants of the research

Fields	SCME	PFEP
Mathematics	8	7
Chemistry	8	6
Biology	10	10
Total	26	23
Final total	49	

Secondary Science and Mathematics Education is a five-year programme – exclusive of English preparatory class (duration of education in these departments was later on reduced to 4 years, but these students were enrolled in the fifth year at the time of the research). The students in these departments are studying to become teachers at secondary level of education. The education programme that these students follow are composed of subject knowledge, general culture and professional teaching knowledge courses. These courses are complexly distributed to across five-year education. The students of PFEM are graduates of four year programmes. These students follow 28-week professional teaching knowledge courses to receive teaching qualification certificate. These two groups obtain right to be a public teacher by following two different models. Therefore, qualifying to be a teacher according to these two models is accepted as a sampling criterion; in other words, purposive sampling has been used for this research. As shown in table 1, 49 teacher candidates participated in the study.

Data Collection

The data collection tool of this study is the "open-ended question form" developed by Ateş and Burgaz (2014). The required permission for the use of tool was received from researchers. The stages of development of question form are presented below.

To prepare the data collection tool, first of all, teacher education of three countries (Turkey, Finland and United States) were studied and six dimensions (university entrance requirements, duration of education, content of education, school experience and teaching practice, teacher competency and evaluation system) were identified. Later on, the features of the training programmes and the six dimensions across three countries were summarized on a grid composed of 18 checkboxes. Expert opinions were received from two lecturers who have previously worked on the same topic to ensure the accuracy and clarity of the features in the grid and whether the features sufficiently explain the relevant dimensions. After the correction, the grid presenting the features of education system (Appendix A) and question form (Appendix B) were finalized.

Data were collected through open-ended question form are collected in a similar way with semi-structured interviews and are based on a series of standard question set. Thus, students were able to answer the questions regarding the three different teacher training systems subjectively. This allowed students both to take the oral explanation into consideration and to read the provided texts with no time concerns. They were free to answer the questions at the length, time, and style they wished. At this step, teacher candidates were provided with the appendix A form seen below and during the distribution of forms to students in class, they were given further information about the dimensions. They were asked to write a feature for each six dimension in the Appendix B form drawing from the information provided in Appendix A. The selection of features for each dimension was asked to be based on their opinions about what could be the most efficient teacher education programme in Turkey.

Data Analysis

Education faculty students are anonymised with codes of EF1, EF2 , EF3….EF26 and students of pedagogical formation education programme are tagged as PF1, PF2, PF3…..PF23. Then opinions of both groups are read a couple of times. Descriptive analysis technique was used. The six dimensions of research were accepted as "pre-determined main themes." Students' opinions in both groups are analysed separately under six dimensions and thus sub-themes are formed under each dimension. Then commonalities and differences of sub themes of six dimensions are identified for both groups. Finally, sub themes were integrated regardless of groups. Integrated themes were used to propose a model to address the third sub-problem of the research. Findings based on suggested opinions are supported and interpreted by using the codes given to the participants.

FINDINGS

Findings are presented below in accordance with the sub-problems of the research.

3.1. First sub-problem of the research: How final year students of Education Faculty and students of Pedagogical Formation Education Certificate Programme evaluate a) university entrance exam requirements b) duration of education c) content of education d) school experience and teaching practice e) teacher competencies and f) evaluation systems of teacher education in USA (University of Virginia system), Finland and Turkey? The results obtained from these six dimensions are presented below.

3.1.1. Opinions of Students regarding the "University Entrance Requirements"

Forty-two percent of the Education faculty students are of the opinion that students who want to study at education faculties should be accepted according to Finland model whereas 34% find USA (University of Virginia) system acceptable. Students arguing for both Finland and USA practices stress that there should be **an interview** in the selection procedure so that students who are capable of teaching can be better identified. The excerpts below show why students think interview is necessary:

Teaching is all about knowing and having expertise in your major. The person should be an effective and influential speaker and teller, love students and be patient (EF3).

An interview can better evaluate the person's attitude towards teaching (EF11)

The most important short-coming compared to other two countries is that we do not conduct an interview. We only evaluate the candidate's scientific knowledge and employ accordingly. However, teachers should have some special qualities. Unfortunately, our written exams are not enough to evaluate this. (EF2).
There should be an interview after the university entrance exam and candidates' communication skills should be considered (EF18).
Individual interviews should also be carried out in our system. Many colleagues of us study in Education Faculty because they have the necessary score to study there. Interview could show if they are eligible for teaching. (EF26).
It is not enough for teachers to express themselves in written, but also orally. Interview can increase the reliability of written exams (EF1).

Students' views emphasize that candidates who want to be a teacher should not only be selected through a written exam but they also should sit for an interview that could evaluate their attitudes, interest and skills. On the other hand, some students expressed their concerns although they ask for an interview in the process of selecting teacher candidates. One of the students, EF21, is of the opinion that "favouritism can be prevented if a group of scientists from different universities rather than academicians only from one university conduct interviews."

Another requirement stressed by students is the "interest, skill and attitude tests". They express their ideas as follows:
There should definitely be an aptitude test. A student may have an interest in a particular major or a course but if s/he does not have a talent in teaching, there is no point in studying that department. S/he may graduate from that faculty but it is likely that s/he will experience problems regarding the job efficiency (EF1).
In addition to high school and university entrance exam, attitude scales about the professions candidates wish to choose should be applied (EF10).
If individuals are guided according to their skills, their occupational achievement can increase (EF11).
I believe that aptitude test is important. If the individuals are guided on the basis of their skills, there will be continuity and enthusiasm in the work they do (EF12).
Turkey should adopt the aptitude test used in Finland for university entrance (...). In our country, regardless of the individual's talent for teaching, the exams scores are taken as a basis to study at education departments. Aptitude test could prevent this (EF14).
In addition to the exam, interest and aptitude test can be applied. Placements made due to wrong choices of individuals cause them to study in departments that they do not want. Therefore, the personal satisfaction and performance criteria are not at an efficient level (EF17)

Students connect interest, aptitude and attitude tests with professional achievement and satisfaction, performance, job efficiency and carrying on a job. Students express that they could do better in the professions that they have are talented for. One student (EF1) argues that having an interest in a particular job is not enough on its own and adds that there is a fine line between desiring to be a teacher and having the capability and ability of getting on with that job.

The most commonly expressed third requirement is "written entrance exam." One group of students find the central entrance exams (such as university of high school entrance exams) appropriate and the other group argues that each university should do its own exam. Almost all students agree that in addition to a written exam, other requirements should also be applied. On the other hand, a small number of students express their concerns on some of the requirements. For instance, one student, EF24, says: "Although I do not feel positive about OSYM, I cannot think of another way of selecting students for the university. It relatively decreases the favouritism", and thus expresses her hesitation about the additional requirements. Another student, EF7, expresses her concern over "reference letters" and reflects her ideas as follows: "Except for the high school references, the entrance requirements of the USA are all reasonable and feasible. Such practices can be introduced to our country; however, in the context of our country, reference letters may include bias and partiality."

Fifty-two percent of Pedagogical Formation Education Programme students are of the opinion that the requirements in the USA system are appropriate whereas 35% of them prefer the entrance requirements in

Finland. Students who approve both the USA and Finland system stress particularly the importance of **the interview.** Few quotations are presented below to show why they think interviews are significant:
In Turkey, only written exam is administered and this is not enough. Interviews are needed to understand if the person is genuinely qualified enough to become a teacher. (PF7)
Interviews cannot address the problems and short-comings of written exams (PF19).
There should definitely be interviews to find out if the candidates are eligible to become teachers, if they are patient and have strong nerves or if they have a decent diction and act and behave well. In the interviews, one should look at if the candidate genuinely wants to become a teacher because there are students who mock or act disrespectfully to the teacher (PF16).
I find the interviews very helpful to evaluate the candidate in terms of teaching and communication skills (PF11).
Interview is a good practice to prevent students from choosing a profession that they dislike (PF4).

PFEP students believe that interviews can offer a better way of selection in identifying the interest of the candidates in teaching profession, personal characteristics and skills. The idea that interviews can better evaluate some qualifications and properties that written exams cannot is prevalent. Contrary to the Education Faculty students, PFEP students who find interviews as appropriate for an entrance requirement did not express any concerns.

Another frequently mentioned requirement by teachers is "interest, aptitude and attitude test." Students expressed why they believe interviews are necessary as follows:
Aptitude tests should definitely be done to understand if students are taking up an appropriate profession in accordance with their skills (PF20).
Aptitude tests should be done because many students in Turkey choose their future profession according to written exams and they study in the departments that they have are not talented in (PF13).
In Turkey students are placed in universities according to a score they get from one exam. This is because students take their scores into consideration when choosing a profession not their interests. As a consequence of this, we have many young people who are not happy with what they studied. Interest and/or aptitude test will show us if their skills accommodate to the profession they want to choose. (PF10)
For Turkey, I see that only aptitude test is missing because students in our country are not placed according to their skills or talents but according to their scores. (PF3)

Students think that interest, aptitude and attitude tests will help potential candidates choosing an appropriate profession and feeling satisfied about what they study. Statements of PFEP students involve less justification than final year students at Education faculty. PFEP students focus more on the necessity of these exams.

The third requirement students mentioned in the interviews is the "written entrance exam." Students voice their ideas about the necessity of written exams as follows:
The central exam done by OSYM is the most appropriate one for Turkey because there is no genuine sense of justice in our country. Therefore, the practices in other countries are not suitable for us (PF1.)
In countries like Turkey where social justice concept is immature and favouritism is prevalent, the central exam is a healthy system to accept students to universities, though not an ideal. Some further criteria could be introduced if the exam is going to be conducted fairly." (PF2)
I find the central exam system appropriate. I don't think interviews or reference letters will be a healthy way to conduct an exam. In the central exam, the students who have worked hard will at least receive a recompense for their work. If there is an interview, there might be cases where bad students will be placed to some departments." (PF18)

When students' statements about written exams are looked into, the reason why they prefer these exams is not the fact that they think such exams evaluates effectively the qualification, knowledge or skill but they rather have concerns over the possibility of biases and favouritism if other entrance criteria are used.

3.1.2. Students' opinions on "Duration of education"
Thirteen Education Faculty students stated that the duration of education should be five years as in the USA and Finland, 5 of them said it should be four years, 3 of them think that it should 3 years whereas 2 of them

ask for a six-year education. The rest (three students) made an irrelevant statement. When statements of students who think that education should be 5 years are analysed, it could be seen that they emphasized that students should first study at Science-Letters Faculties to specialize in their related field of teaching and then they touched upon importance of graduating with a master's degree. One of the students, EF3, who think that education should be 5 years justified this by saying: "4 years are not enough for teacher education. It is expected from us to have a good content knowledge, to be equipped with teaching competencies and to be successful in teaching. In the US, Science-Letters Faculty students graduate with the content knowledge and then gain teaching skills at Education Faculty. In addition, they graduate with a master's degree and therefore also qualify to teach in an academic environment. Another student, EF4, said "I think, given the duration of the US program, better equipped teachers are educated. They also graduate with a master's degree." Based on this finding, it could be argued that final year Education Faculty students want to take their content knowledge and pedagogical content knowledge education in different faculties, unlike the current practice in Turkey which offers an integrated programme at Education Faculties.

Sixteen PFEP students (69.6 %) believe that education should be five years as in the USA and Finland; six of them think that it should be 4 years and only 1 student says that it should be 8 years. When all the statements of the students who think that education duration should be 5 years are looked into, it could be seen that they want a system like in Finland and the USA where first two or three years of 5 year education should be allocated for the training at Science-Letters faculties. One of those studies, PF23, justifies this as "It gives people the opportunity of being more equipped in their field", whereas another students, PF9, similarly argues that "I believe that the chance of training teachers who have an expertise in a particular field could be higher." Lastly, PF11 says "To be able to study in an Education Faculty, they should require to be a graduate of Science-Letters Faculty. In this faculty, content knowledge courses can be thoroughly learned in 2-3 years and then students with teaching skills can be selected to proceed with teaching formation programme." An important issues emphasized by PFEP students is to be able to graduate with a master's degree. On this issue, students talked about advantages such as "not dealing with exams for acceptance to a master's degree (PF5), raising up individuals who know what they want and who can develop themselves in that particular field (PF10), and having more qualified teacher (PF19) and opportunity of starting directly to a doctoral degree (PF22)."

3.1.3. Opinions of students about the "Content of Education"

Fifty percent of education faculty students argue that like in the USA and Finland, candidates should receive their content knowledge classes for 2 years from relevant departments of Science and Letters Faculties and should get professional teaching knowledge courses for 3 years from Education Faculties. As EF1 expresses subject's content knowledge classes taken at Education Faculties are unnecessary and insufficient: "In our country, it is compulsory for us to take courses like physics, chemistry, and biology. The content of these classes are not sufficient to be used in teaching profession therefore they are really unnecessary. Instead of taking these classes, we should take more courses on teaching." When all students' statements who have shared a similar view are taken into consideration, it could be argued that content of a four-year education programme is not sufficient both for content knowledge courses and professional teaching knowledge and practices. Students particularly expressed that courses are mainly theoretically-driven in Education Faculties, there are few teaching practices and therefore there is a need to increase the percentage of such courses in the curriculum. Only five students said that they were happy with the curriculum, argued that that content knowledge courses make up 50% of the curriculum and therefore there is a need for an increase in professional teaching knowledge courses.

43.5 percent of pedagogical formation education students suggest that like in the USA and Finland candidates should follow 2 year content knowledge courses at Science and Letters faculties and 3 year teaching courses at Education Faculties. Contrary to the current integrated programme in education faculties, they express that content knowledge and teaching courses should be taken from different faculties. What is striking is that education faculty students want such a system with a higher percentage (50%). Both groups of students propose that there should be an either 2+3 programme like in the USA or 3+2 programme in Finland and content of education should be re-considered on the basis of 5 year education.

3.1.4. Students' opinions on "School Experience and Teaching Practice"
Students' opinions on "School Experience and Teaching Practice" show that the United States practices are more favoured. 16 Education Faculty students out of 26 stated they are more in favour a school experience and teaching practice like in the USA whereas respectively 3 and 1 of them opted for the system in Turkey and Finland. The rest (6 students) did not specify a particular practice in any of the countries but they asked teaching practices to be increased and wanted a more rigid monitoring and inspection. When the practices in the USA is looked into, it could be seen that students visit schools for teaching practice almost in all terms and they are more engaged with schools, make observation and teach.

It could be understood from students' statements that they attach importance to teaching practices:
We only take "school experience and teaching practice" for only three years. School experience course is all about making observation. Teaching practice course is in the last term of the final year. This means, we reduce all the things made in every term of the USA education into one term in our system. As I said before, we should at least have a 10-term education and we should go to schools to teach at least in 6 terms of it. Now, we visit only one school. If we have this practice for six terms, we will have the chance of seeing 6 different schools. These schools could involve different types such as schools with multi-grade (or integrated) class, private schools, public school or practice schools of Education Faculties (EF7).
The problem that we mostly face in teaching practice courses is the inexperience. If we have a teaching practice every term like in the USA, the problem can be solved. (EF5).
They say education requires experience. So, the more experience we gain, it is better for us. Teacher candidates should have more experience in working with the new generation and they should be able to understand their way of thinking. They should practice how to teach. We should gain experience when we are studying in the university so that when we graduate we could be experienced teachers who can stand on their feet and feel confident. The other two countries' development is directly related to their education (EF26).
I think that the practice in the USA is more efficient because students under supervision take the necessary guidance and supervision and they better know what to do or how to do things (EF6)
I found the practice in the USA efficient. School experience should not start in the third year. Teacher candidates should start visiting school starting from the second year. If these practices start earlier, students can better gain experience and can better make decisions about themselves (EF15)
When I look into all three countries, I see that USA system is more intensive and tiring. Yet, I think that starting teaching practice from the second year onwards is better to feel prepared for teaching (EF4).

When statements of final-year Education Faculty are considered, it could be put forward that students place a particular importance to teaching practices, they want to start teaching practice much earlier and they want to spend more time within the school environment during their pre-service. Thus, they want to make more observations at schools and gain experience. Students want teaching practices courses to be increased in number and wish to enhance their knowledge about the school environment and the students. This is because they believe that if they know the nature of school and students better, then they could feel more confident and be better equipped teachers.

Eighteen PFEP students of out 23 prefers school experience or teaching practice similar to the USA and 1 stated to opt for the system in Finland. The rest four students argue the importance of teaching practice and necessary of increasing teaching practice in the curriculum. Students' opinions show that the system in the USA is more preferred. The quotations below can be taken as an indication that students want to have a longer period of teaching practice at schools:
It could be very helpful if students gradually engage in practices starting from the second year like in the USA. This is because candidates should start gradually seeing the beauty of teaching profession and should be more efficient by being in an interaction with students. As candidates improve themselves each year and reach to the level of managing their own class, they can take firm steps towards their profession and be more beneficial to their students (PF10)
The system that the USA follows is quite good. They gradually prepare students for teaching profession with a full aim of training teachers (PF20).

I think that teaching practice is the most important part of teacher training. This is the time when an individual takes a decision regarding the students, his/her identity and teacher identity. I believe that teacher training should be gradual and long term (PF9).
The practice in the USA seems better. The teacher candidate has the opportunity to engage with the students starting from the first year (PF18).
I found the system in the USA quite efficient and different. I think they teach how a teacher should be during the practice (PF1).
I believe that the practice in the USA will be beneficial. The more teacher candidate takes practice-based courses, the easier s/he can adapt to the school environment in the future. In addition, classroom management skills can also be gained easily (PF14).

When statements of PFEP students are considered, it could be said that students prefer teaching practice courses to be distributed to each year as in the USA thus they could better adapt to school and teaching profession in the future and feel more comfortable in issues such as classroom management. They think that gradually getting ready for teaching professions is a good opportunity to address the problems and deficiencies within the process.

3.1.5. Students' opinions about "Teacher Competencies"
Final year students at Education Faculty stated the qualities a teacher should have rather than preferring a country's system. When the qualities student stated were analysed, 51.1 % of 141 sentences expressed by students goes along with the qualities mentioned in Turkey, 24.8% of them reflects the qualities in Finland and 24.1% of them are the USA qualities. Students expressed that they found the competencies in Turkey appropriate and made some further suggestions:
I think the teacher competencies in our country are not sufficient. Teachers should better know their students and establish an education environment that is relevant for those students. An appropriate education environment in which teachers can solve problems or offer solutions and can work should be created (EF15)
As far as the standard competencies in Turkey are gained to the teachers, it will be better for everybody. (EF14)
The teacher competencies in Turkey are quite good. The important thing is to show them in practice. (EF7)
Little is being given and much is being demanded. (EF3)

Students' almost all statements on teacher competencies show that they do not have any criticisms regarding the competencies but they rather emphasize the importance of assessing whether teachers gain these competencies or whether teachers exhibit behaviours that are in accordance with the gained competencies. Some students (EF1, EF20, and EF11) suggested that some of the competencies in USA and Finland should also be introduced to Turkey. These competencies are acting professionally (USA) and knowing students better (USA). Another finding is that students are in favour of a teacher education based on a competency based framework programme.

When the competencies PFEP students found appropriate in "teacher competencies" dimension are analysed, 71.5% of the 123 sentences that express a specific competency reflects the competencies in Turkey whereas respectively 22% and 6.5% of the statements goes along with the competencies of USA and Finland. When students' expressions about teacher competencies are looked into, it could be argued that they find the competencies in Turkey quite comprehensive yet they think some of the competencies in other two countries should also be introduced to Turkey. The quotations below confirm this argument:
The competency of knowing students better is also important. This should be added to the competencies (PF4).
In addition to the competencies we have in Turkey, the competency of providing safe and positive learning environment should be introduced (PF3).
Students should have the ability of taking individual differences into consideration and developing them (PF2).
Acting professionally is definitely very important (PF5).
A teacher should definitely learn to act professionally (PF11).
The competencies in Turkey are quite comprehensive but competencies of knowing students better, taking individual differences into consideration and acting professionally should also be added (PF15).

The competence of knowing students better should also be paid attention (PF20).

Students who expressed that certain competencies should also be introduced to Turkey focused on the need for acting professionally (USA), knowing students better (USA), taking individual differences into consideration and developing these (Finland). PFEP students like Education Faculty students argues for a teacher education based on the framework of competencies of teacher candidates.

3.1.6. Opinions of students regarding "Evaluation System"
Seven Education faculty students indicated that they preferred the evaluation of USA system while 5 students delivered an opinion in favour of Finland system. Five students who embrace the education system in Turkey expressed that the system in Turkey could be further improved. Nine students did not make any remarks on this issue. Some of the points raised by students in favour of the US system are:

I think the system in the US is more efficient. Portfolios and planning increase the efficiency of teaching and permanence of learning (EF1).
Neither entering Education Faculties nor graduating and working as a teacher should be easy. Those who cannot reach a certain level particularly in teacher competencies and professional knowledge should not graduate. This should not be equated with discouraging students; instead it is doing favour to the next generations. Moreover, evaluations made in internship schools should make up a big part of the assessments (EF2).
I am in favour of the exams required to pass the upper class as in the USA. If this is applied, it could be ensured that we could have a more successful term (EF5).
I think the USA system would be more efficient because it is aims to make students more active. On the other hand, in our system, student is evaluated on the basis of a mid-term and a final exam. This creates the mentality of studying only for exams in students (EF6).
In the USA, practices are based on formative evaluation. This helps students monitor their development and weaknesses within the process. (EF14)

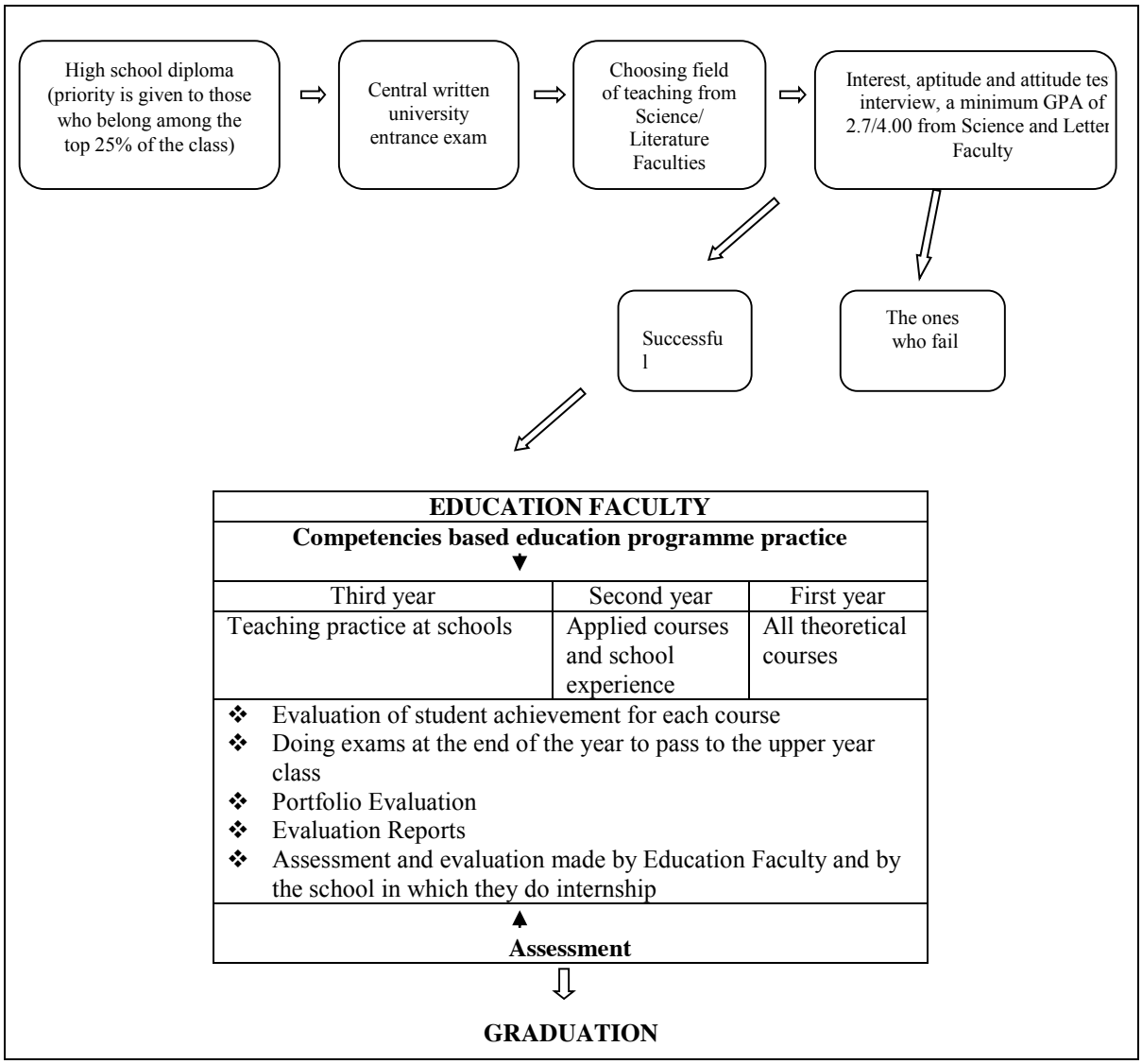
Students who embrace the assessment system in the USA think that portfolios play an important role in evaluating students' performances throughout the year. Evaluating the each product of the candidate is found more meaningful the summative evaluation. This finding indicates that students opt for formative evaluation. In addition, it could be argued that students also think that summative evaluations for passing to the upper class will be more meaningful if combined with formative evaluation.

Ten of PFEP students prefer evaluation system of United States whereas six students opt for Finland system. Only two students think the evaluation system in Turkey is appropriate. The rest five students did not state a particular opinion on this. The statements below reflect the positive opinions of students on the USA system:
Of course, I prefer the USA model because there is a portfolio prepared every year and there is an exam requirement to pass to the upper class and this will make the teacher candidates being prepared and ready all the time (PF1).
The exam done in the USA to pass to the upper class can be applied in Turkey. I believe it could be beneficial in terms of teacher competencies. To be honest, all the evaluation systems in the USA caught my attention. I think they can all be applied in Turkey (PF4).
More attention should be given to portfolios. To see how much a teacher candidate developed him/herself would remind him/her mistakes and will give an opportunity to address those mistakes (PF12)
I found the system in the USA efficient because mid-term and final exams cannot evaluate to what extent a person is capable of teaching. I find performance evaluation very necessary in terms of teaching (PF15).
Portfolio evaluation at the end of each year is a good strategy. Teacher candidate will also have the chance of seeing of her one-year of work at the end of the academic year. S/he can also use those materials in the future in his/her professional life (PF18).
Practice-based evaluations should be introduced. When there is only one mid-term and a final exam and when no other means of evaluation is done, then student studies by focusing on exam, memorizes the knowledge and passes. However, the knowledge that is put into practice is also learned and this means that the desired aims are achieved (PF20)

It could be argued that PFEP students prefer the USA or Finland system because the evaluation is distributed evenly across all years and students are evaluated both in terms of theoretical knowledge and practice thus there is an importance attached to both formative evaluation and summative assessment. This is directly related to the performance of student. Students have negative attitudes towards summative assessments based only on mid-term and final exams. In brief, students think evaluations should be related to the individual developments.

3.2. The second sub-problem of the research was to seek an answer to the question of "What sort of an education model can be formed on the basis of the views of final year education faculty students and students of Pedagogical Formation Education Programme?" When students' opinions regarding the six dimension of teacher training system in Turkey, the USA and Finland are looked into, except from the teacher competency dimension, students opt firstly for the USA and then Finland practices.

Figure 1. Teacher-training model based on students' opinions



It could be asserted 81.6% of the students are in favour of "interview, interest, aptitude or interest test" and "written exam". In addition to this they also think that reference letters, 2 years education at Science-Literature Faculty and at least 2.7 GPA are necessary for university entrance requirements. Students' opinions on the dimensions "duration of education" and "content of education" match with their suggestion of a "2

year-education at Science-Literature Faculty" requirement for the dimension of university entrance. They stress the significance of having full knowledge of and being equipped with the content knowledge they will be teaching and believe that such expertise should be gained before students proceed their studies at Education Faculty. In this sense, students make a distinction between content knowledge education and teaching skills training and argue that duration and content of education should be regulated within this framework.

Students share the opinion that training received at Education faculties should be practice-based. They want teaching practice based courses to be increased and wish to spend more time at schools to gain experience. In "teacher competency" dimension, students do not disagree with any of the competencies that countries embrace yet it could be argued that they generally find the competencies in Turkey appropriate. Lastly, in the dimension of "evaluation", it could be seen that students are in favour of process-based evaluation and want dual evaluation made by both the lecturers at Education faculty and the teachers in the school they do their internship. Based on the student opinions presented above, a teacher-training model has been suggested and presented in Figure 1.

DISCUSSION and CONCLUSION

Research upon teachers generally focuses on issues associated with curriculum, students' achievement and teacher problems. There is relatively less research on the models upon which training should be based. The reason for this is that institutions providing pre-service training to teachers rarely undergo a structural change and they face difficulties during these changes. In addition, it is known that essential and radical changes made in teacher training system help to maintain the system by minor revision within the years. It is also the case that current system does not address the global and national needs and expectations, changes in due course. Therefore, views and suggestions of the decision-makers, practitioners and beneficiaries of the systems play an important role in revising the existing situation. So, in this study, the model developed on the basis of the opinions of teacher candidates, who are the beneficiaries of the system, can be an importance data source for decision makers.

As stated in "National Teaching Strategy Draft" prepared by Ministry of National Education, who is the most effective decision maker of teacher education system, providing the most qualified teacher to each classroom requires foremost selecting the most successful students for teacher education programmes and this requires enhancing the entrance requirements for these programmes (MEB, 2011). The findings of this research confirm the suggestions of MoNE. Teacher candidates suggest that in addition to the written exams (TEDMEM, 2014), interviews that could identify the personal characteristics of individual and tests that could assess candidates' interest, skills and positive attitudes in teaching should be carried out. In other words, students confirm a student selection system that could take into consideration numerous variables. This opinion is an indication that a functional selection procedure is adopted and there is a shift from providing teachers for a changing system in accordance with needs and requirements to choosing appropriate candidates for profession (ERG, 2013).

Participants make a distinction between the professional teaching courses and content knowledge courses. Contrary to the dominant view, students believe that courses requiring expertise in subject's content should be taken from related fields of Science and Letters Faculties. This finding can be interpreted that students find 4-year training offered in education faculties insufficient as content knowledge courses (maths, chemistry, biology, and etc.), professional teaching knowledge and general cultures are all offered together. Hence, students are in an agreement that duration of education should be 5 years. The interesting point is that education faculty students also support this view. These views of student are contrary to the findings of the research that evaluate the results of Selection of Civil Servant Exam and show that education faculty students are more successful in the exam than the others (Safran and et.al, 2014). In other words, although education faculty students show higher success than the students studying at Science and Letters Faculties, they believe that content knowledge courses should be taken from the related departments of that major. Students' demand of a 5-year education in teacher training programmes and graduating with a master's degree can be argued to have a role in this view.

Students attain a particular importance to teaching practice and make negative assessments about current system practices. They believe that teaching practice courses should be distributed to across all semesters of

Education Faculty and practices related to theoretical courses should be associated with internship schools. If the first step to gain experience is to gain theoretical knowledge then the second step is to direct students to implement this knowledge in practice and monitor their practices. In this respect, students underline that teaching practices in the final year as in current system is not helpful and that theoretical courses should also have practical aspects. Therefore, a need for revising and restructuring the teacher training model and programmes arises.

It could also be argued that students find the teacher competencies determined by MoNE sufficient and demand an education that could truly gain these competencies. This can rather ease the structuring the teacher training based on competencies. Although there are some criticisms that teacher competencies have some inadequacies (TED, 2009), it is a fact that competencies based teacher training model is also approved by the students. In addition, students make further suggestions that could replace mid-term and general exams. In this respect, they express that they are in favour of an evaluation that could monitor their performances rather than a summative evaluation. This shows that students adopt constructivism.

There are two models followed in teacher education in Turkey. First one is Education Faculties Model. This model is based on the idea that students who decided to be a teacher are placed in Education Faculties and are trained to be teachers. The second model is Science and Letters Faculties. Graduates or students of this faculty attend to Pedagogical Formation Education Certificate Programme to qualify as a teacher. The model suggested by students in this research shows that they suggest a third model that do not fit into none of the models. Therefore, teacher candidates can be argued to have contrasting views that do not comply with current teacher education models. The countries used in this research and the success in teacher training of these countries can be argued to influence teacher candidates' suggestion of teacher training model.

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Appendix A: Features of six dimensions of teacher training programmes in Turkey, USA and Finland

Dimensions	**Turkey**	**USA** (University of Virginia)	**Finland**
University Entrance requirements	Students are accepted to education faculty on the basis of scores obtained from the central exam. A certain percentage of GPA is added on top of the score. High school GPA also has a certain extent of value.	*High school diploma (priority is given to those who are among the top 25% of the class) *Reference letters from high school teachers *Scholastic Aptitude Test (SAT) or American College Test (ACT) *individual interview *to be accepted to education faculty, two years of education at Science and Letters Faculty with a minimum GPA of 2.70	*written exam *aptitude test *individual interview *observation of group discussion
Duration of Education	Undergraduate Education (8 terms)	10 terms in total *4 terms at Science and Letter faculty *6 terms at Education faculty (Teachers graduate with a master's degree)	10 terms in total *6 terms of undergraduate degree *4 terms of Master's Degree
Content of education	*Professional teaching knowledge % 30 *General culture % 20 *Content knowledge % 50	*selection of major *education courses *school experience courses	*Science or Social Sciences Faculty Education *Education Faculty (Pedagogical Formation)

School experience and teaching practice	Each teacher candidate participates in teaching practice required by "school experience" and "teaching practice" for 3 terms starting from 6th term.	Teacher candidates take school experience courses starting from the second year. One credit is allocated to these courses every term and students go to school in the first year to observe the class environment. In the second year, they give private courses in literacy skills to students. Teacher candidates make classroom observations and start to teach a lesson in the first term of the third year and in the second term they teach a unit. In the first term of the fifth year, they start to instruct under the supervision of a senior teacher in the course of "assistant teacher."	Two-year (4 levels) teaching practice (three of these internships are completed in practice schools of Education Faculty and one of them is done in a state school)
Teacher competency	*teachers should understand and have a good grasp of the curriculum, and content knowledge during the teaching process *Instructional Planning and applying *Monitoring and evaluating teaching efficiency and student development *Managing teaching process and student behaviours. * adjusting teaching according to students' characteristic *being able to use information technologies effectively *being able to provide an effective communication in teaching and learning environment *planning and realizing self and professional development *being able to work collaboratively with other teachers, parents and school workers	*knowing students well *having adequate content knowledge *being expert in planning, teaching and evaluating *establishing a reliable and a positive learning environment *having skills of cooperation communication *acting professionally	*Taking students' individual differences into account and developing them. *Cooperation with other teachers at school and in other educational institutions *collaboration with parents, officials and other professionals, and encouraging them *Developing programmes, creating learning environments and materials and developing them *Solving problems at school *professional development and reflection of professional identity

	*being able to act responsibly and critically in accordance with the ethics rules		
Assessment system	Evaluation is generally based on mid-term and final exams. In practice-based courses, students' performances are evaluated. For each term, at least one mid-term, one final and one make-up examination are conducted.	In addition to course exams, they also need to sit for exams required to pass to the upper class. Students submit portfolio work showing their progress in education. Portfolio includes the handwork, daily plans, feedback notes of teaching staff and self-reflection grades. Assessment reports of school experiences courses are also added to the file.	*Evaluation made by the education faculties *Evaluation conducted by internship schools

Appendix B: Question form

Question Form

Please state the features that you think will be most efficient if applied in Turkey. Features will be chosen among the information provided for the three countries as presented in the six dimensions in Appendix A.

1. University entrance exam
……..
2. Education duration
……..
3. Content of Education
……
4. School experience and teaching practice
……
5. Teacher competency
……
6. Evaluation system
……

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A Practıcal Model For Informatıon Securıty Awareness Traınıng: Secure Informatıon Project

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ABSTRACT
Educational technology is constantly evolving and innovating brings out a field. The development of open societies adapt to change are developed using methods and tools in education and training should be world conditions. Theoretical knowledge of educational technology in this context, the gap between information security and application development by eliminating individual and effective methods for teaching her ways, has taken on the task of finding environments. Nowadays, increasing the importance of entering into our lives every day technology, the location is solidified in computer aided environment. Therefore students "technologies in the context of open innovation, computer-aided talent, knowledge, skills and behavioral development" should be teaching the doctrine. However, the provision of this information consolidation and security today has become very difficult. Information from illegally seized, in all aspects of society, particularly in education is harmed. In this study, continuous self-renewal of how and to what extent to use technological tools, such as computer and information security of these tools include the factors in computer-aided education. In our country where the use of computers spread rapidly, both in education and will lose computer outdated in no time, so computer-aided education that affect the way in our lives and be examined in terms of information security, this training is an important issue.

Keywords: *C*omputer; information security; education; technology; development.

INTRODUCTION

Information security today is one of the rapidly growing importance of the subject. Rapid development and increasing their estimates on the technology of computer ownership rate led to an increase in direct proportion to the information at the same time. Although this facilitates the rapid development of computers and technology in human life also brings with it certain risks. Unconscious on the use of computers and people to share their personal information curiosity information security is one of the most common issues.
More information has experienced a rapid technological transformation and evolution can be stored on smaller devices, portable, it has become can be replicated. Application software and the processing of information with the developments in the broadband side, it has become transformed into a more practical value. All this will facilitate people's lives technological developments improper use on the other hand, the weakness of the risk perception of individuals, a number of drawbacks in the face unaware of the threat to information security, carries malicious use, and a number of compensable information security risks in the body (Şahinaslan, Kandemir :2009).

The dizzying developments in computer and communications technology, and especially the people with the effect of the catalyst on the Internet, work, communicate and meet all kinds of daily necessities is constantly format conversion (Nagurney, Dong, Mokhtarian :2002); (Fallows : 2004). In today's society people with computers at an early age are met; at home and at school, an intensive need for entertainment on the computer for homework in need are benefiting (Subrahmanyam, Kraut, Greenfield, Gross : 2000). Especially after 1979, he was born and "Generation Y" called cut, both located at the forefront in terms of new technology they use both in terms of population. This generation and today's children and young people; The general technology, in particular computer and Internet interaction and communication is one of the most wanted parts the actors (Montgomery, Gottlieb-Robles, Larson:2004); (Lenhart, Madden, Hitlin :2005).

Information technology and raw materials of these technologies, the importance of information input and output, which is not fully understood. Knowledge and understanding of what is happening is not enough to have potential as an important and what; information technology and should not be shown on the importance of information security (Şağıroğlu: 2001); (Canbek, Şağıroğlu, 2006).

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Data, Information and Self-knowledge

It is a fact that we live in an era marked by the presence of knowledge. From this perspective, our time to define the knowledge, the raw material in the value of gold, grasp and examine issues related to knowledge, humanity is the most important key to shaping our development for the future in the process from the beginning (Canbek; 2005). Today, information came to the fore as it may seem, in fact knowledge; While yesterday's and today's switches, also in shaping the future has always switch roles.

The following remarks about the nature of the information collected, the value and size of the information may be useful to illustrate once again (Housman: 2000).

Information;

• Gap and occupies the time.
• Noise can not move without removing.
• energy required for the movement.
• Life and is required for any regular activity.
• Both immaterial form is both cumbersome materials.
• It has weight. A gigabyte is less than the weight of a fingerprint.
• There may be moving or frozen in time.
• A question was satisfactory, perhaps disturbing is the answer.
• It has become solid, freeze and solidify (storage).
• It has become fluid flows (communication).
• move information in one place, the universe rumbles and roars truth.
• Unlike information can be in multiple places at the same time Article.
• handshake, nod, glance or internal tug.
• shines in sea.

To scroll through the information age can be likened to rise to a higher level using the steps of a ladder (Schuler: 2003). Figure 1 reality (reality) and wisdom (wisdom) is shown between the rungs of the ladder, data (data), knowledge (information), Knowledge of (knowledge) to the step. In most cases, each step will be omitted individually omitted. Moving up the amount of things we have decreased the value increases. Still moving up, the more difficult step to the next step or whether more effort. So, while the staircase give the bottom rung and easier sharing of information or people or workers, while more open sharing of data and information they receive, the same can not be said for the sharing of Knowledge when higher quit (Tiwana:2002).

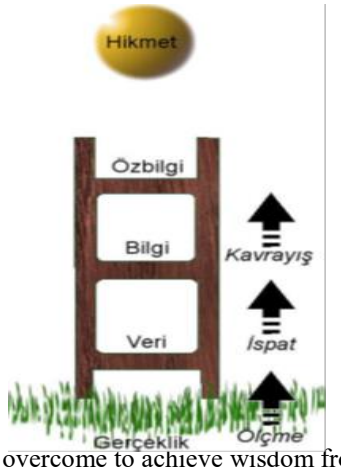

Fig.1. Information on steps that must be overcome to achieve wisdom from reality (Canbek, Şağıroğlu).

In general, these methods brought about by science, data from the present reality by measuring, with the knowledge and understanding of the data and the proof is achieved Knowledge information (http://www.theorsociety.com/about/topic/projects/notorious/2_2_Data_Info.htm). Knowledge before reaching wisdom requires a thought containing synthesis. These thoughts, ideas is combined in such a way

that it is greater than the sum of all parts reach (Courtney :2005).

Another observation is at the bottom rung of the ladder, more and need a programmable algorithmic approach be heard, higher steps is to have a structure that can not be non-algorithmic and programming (Montano, : 2004). Data and information transmission, information technology can be used, in addition Knowledge also enters into the human factor in business [17]. Benefited from management science to transform reality into a Knowledge .
Information and Knowledge concepts or steps, our country is often confused with each other (Grover, Davenport, : 2001). For this reason, defined in detail in the following paragraphs and related concepts it is explained.

The data; English is used as the equivalent "data", Latin for "datum" the word (plural form of "data" and "daring to give" the past tense of the verb, so "the thing") comes. Latin for "data" (Dedo until) the concept of BC In a study of Euclid is reported that 300 years later (http://www.britannica.com/eb/article?tocId=2176). In our language "the thing" in terms of "data" it is used as. Data in terms of information technology, on a case known yet established contact with each other or in short, found in digital media and carrying signals and / or bits can be defined as strings.
Information; It is a modified so as to express a specific meaning data. At this stage, the data and its associated threads, are combined to produce the information. Processed data as the information that can be expressed by Shannon "a source reduces the uncertainty that exists about a subject" is defined as. In short, suitable for all transactions made on the data (based on logic conversion, relationships, formulas, assumptions, simplifications, etc.) output can be expressed as information.

Knowledge; or in the form of experience or learning the facts obtained in the form of introspection, correct or knowledge, to be aware and understanding.

Brought together data, although information processed by Knowledge occur is a concept above the sum of the information used. Could create a force that can provide added value or to become a tool, more attentive and processed information, is the real value Knowledge. Knowledge is what it is (know-what), why is (know-why), how is (know-how) and who you are (know-who) know the form consists of four classes. What is know is the sum of the actual and the class that is closest to the information. Know why, scientific Knowledge described the principles underlying the technological development and the law. How to know that there is an ability to do something. Know who, who does what, and who knows what can be summarized as know how to do (OECD, Knowledge Management in the Learning Society, Paris, 14-15, 2000).

Wisdom (wisdom), imagination, foresight, and the most advanced level of abstraction and with the ability to see beyond the horizon is the essence of a person's experience acquired during his career in private business field (Awad, Ghaziri, 2004). Wise also has a reliable judiciary and is defined as to grasp how to use the Knowledge to decide (Kirrane, 1999).

Data, information, and concepts such as Knowledge wisdom that the fundamental building blocks of information technology should not be overlooked. This perspective will help to keep the importance of knowledge and information and computer security is always a priority position. Although the concept referred related information, where the information technology and Knowledge considered not in terms of management of these concepts also under thousands of years of civilization or humanity it should also be remembered. Every civilization in history who understand the importance of knowledge, in order to protect her, have developed different security methods (Canbek, Şağıroğlu, 2006); (Canbek, Şağıroğlu, 2005); (Apaydın, S.M.F. 2014).

Today, knowledge is being produced, storage, protection, use, sharing, dissemination, interaction and increase speed with dizzying speed information processing and communications technology has brought about a state (Canbek, Şağıroğlu: Bilgi, Bilgi Güvenliği ve Süreçleri Üzerine Bir İnceleme).

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INFORMATION AND COMPUTER SECURİTY

The storage of data or information in electronic media and in its entirety the structure during transport, to protect from unauthorized access, can be expressed in all Information Security-building efforts of a secure computing platform. To ensure the functionality of the platform should be identified and appropriate security policies must be implemented. These policies, examining the activities, monitoring of access, evaluation by keeping records of changes can be reduced so as to limit the deletion of some use. Information security more broadly, to address security issues in detail "safety engineering" is seen as a child of the field.

Information and computer security, counter party, those who considered malicious (pirates or hackers) and they are attacked. The existing information and to overcome computer security systems or dodge, to inflict weakness people to inflict harm, directly or indirectly, damaging the system, to aksattır the functioning of the system, stop, the attempt made on computer systems with malicious purposes, such as to collapse or break down are called attacks or episodes. The attackers, they perform attacks with very different techniques to achieve their goals. Knowledge of attack types, determination of accurate analysis and necessary measures for the security of information is of great importance (Canbek, Şağıroğlu: Bilgi, Bilgi Güvenliği ve Süreçleri Üzerine Bir İnceleme).

Information Security Threats

Threats to information security are detailed below. In addition, threats and information security, as shown in Figure 2 can be grouped under the following headings.

• Malicious Software; viruses, keyloggers, trojan horses, spyware, spam, sniffer, phishing, botnets, exploits etc.
• Natural Disasters; earthquake, flood, fire, lightning, etc. disasters and physical damage they can create.
• Social Media and Engineering.

• Password Security, Open, and Physical Security.
• Hackers and Access to Information; Pirates and threats to access to information.



Fig.2. Information Security Threats [1].

Security Policies

Privacy (confidentiality), integrity (integrity), availability (availability), authentication (authentication) and inability to deny (non-repudiation) are the most basic principles of information security. Apart from this responsibility (accountability), access control (access control), credibility (reliability) and security (safety) are the elements that support the information security factors. Performed by information security, but all of these elements can be fully ensured. As can be seen from Figure 3, the lack of one or more of these principles may cause deterioration in safety aspects. These principles should never be forgotten that the complementary elements.

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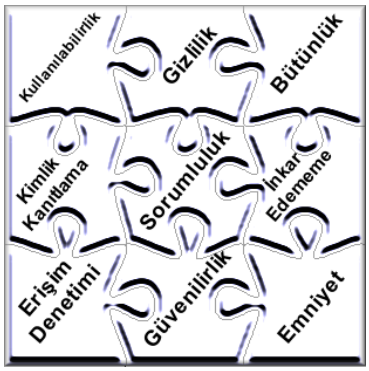

Fig.3. Security Elements [9].

Safety Processes

Information security is the security system will be established within the framework of the infrastructure and policies to protect the correct way to determine and evaluate the requested information security management must be done correctly and in a complete manner. Security management, information and determining the factors that negatively affect the computer security is the process of measuring and reducing to a minimum. An example is shown in Figure 4 of the security process. In this way, four different attack "1" - "4" is shown. As it can be clearly seen from the figure, "1" number one attack, which prevented the immediate prevention stage; "2", "3" and "4" No. attacks could be avoided at this stage. Preventing these attacks that come through the process "2" attacks, are detected in the detection phase, while disposal; "3" and "4" on the number of attacks, managed to pass in the detection phase. In response phase is the last stage designed with specified tolerance, "3" of attacks while avoiding; all stages last ditch "4" No. attacks, passing all security matters, has damaged the system (Canbek, Şağıroğlu: Bilgi, Bilgi Güvenliği ve Süreçleri Üzerine Bir İnceleme).

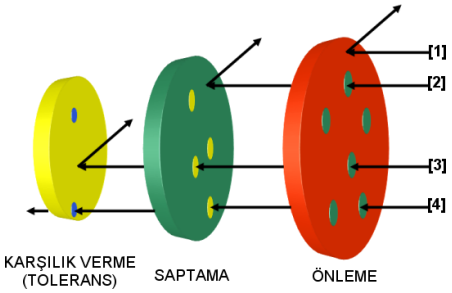

Fig.4. Security Processes and Responses to attack [9].

CONCLUSION

Human knowledge is considered to be the weakest link in the security process. However, people can get rid of this weakness with information security awareness training may be the most important aspect of information security processes and awareness-raising activities. These activities can bring many benefits, such as in corporate base will benefit an individual basis. Information security awareness and training programs, institutions should be extended until the end of the bottom up, from the top management and users should be provided. Institutions and individuals protect the information valuable asset in hand, to ensure the integrity and reliability should unite around an information security policy or rules to achieve the necessary should also be informed first of these rules is their guidance. On the other hand should also have information on what kind of information can be faced with current security risks and threats. The most basic and effective method for individuals will be able to create this awareness is passed through an awareness training program. Institutions wishing to provide awareness training and can enter into the search need information about the contents of what they offer.

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A Review Study On The Evaluation Of Preschool Education's Reflections On School Maturity

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ABSTRACT
Primary school is an institution where certain academic skills are expected to be gained rather than an institution to which children attend within a certain period of time. Therefore, children are required to have the levels to respond to the requirements of this institution. However, it is quite difficult to say that every child reaches this maturity at the same time and in the same level. Receiving a preschool education is among primary needs in order for children to start primary school under equal conditions. When the contribution of preschool education to school maturity is taken into account, preschool education can be considered an opportunity for preparation to primary school. Therefore, this study endeavoured to evaluate preschool education's reflections on school maturity and recommendations were made for people in question. Consequently, the significance of preschool education was reemphasised.

INTRODUCTION
The only being that is able to think and put his opinions into practice, in other words, turn his opinions into actions is human and there are very significant milestones in the life of this being. Maybe the most important one of these milestones is to start the school (Erkan and Kırca, 2010). When an individual starts the school, he enters an environment that he was not previously used to. He has to gain some certain skills in this environment. For this reason, if the individual does not possess the required qualifications, he will face the consequences of the negative experiences he had here in the subsequent phases of his life. Therefore, it is appropriate to expect some skills from the individual after he reaches the required maturity. For this reason, numerous studies have been conducted on this subject until today.

There is generally a criterion which suggests that children start school according to their age (Gündüz and Çalışkan, 2013). As it is accepted that there are differences between individuals, it is clear that only age does not meet the concept of being ready for school (Kutluca Canbulat and Yıldızbaş, 2013). For this reason, school maturity should be evaluated with different aspects and a strategy should be followed according to the results of this evaluation. An efficient education and training environment can only be created by this means for the child that leaves his family's environment.

When the results of the conducted studies are examined, it is seen that preschool education has numerous influences on school maturity in terms of different aspects. Additionally, in these studies, it is also remarkable that there is a significant level of difference between children who have and have not received preschool education. Receiving preschool education is a precondition in order for children to start school under equal conditions. Therefore, in this study; contributions of preschool education to school maturity were evaluated and recommendations for families, teachers, researchers and authorities were included.

A General Overview on the Concept of School Maturity

Many researchers have defined the concept of school maturity essentially with the same significance until today even though these definitions seem to be different. These definitions can be specified as follows; the concept of school maturity can be defined as preparing individuals' fields of development such as social, emotional, mental, physical aspects and self-efficacy and their different academic skills to meet the requirements of primary education (Oktay, 2013). Similarly, school maturity means that a child is cognitively, physically, emotionally and psychologically ready (Yavuzer, 2010). A child that has school maturity reaches a certain level in terms of physical, psychological and educational aspects and has the capacity to do what is expected from him (Ülkü, 2007). Generally every child reaches the level to gain this

maturity. However, in accordance with conducted studies, it has been revealed that school maturity may be affected by some individual and environmental characteristics. This maturity age may vary particularly because of individual differences. In addition, children of families with lower socio-economic levels and educational levels are specified to be behind their peers in terms of reaching school maturity.

Transition from Preschool Education to Primary School

Every new phase of life has the traces of the previous phase. And this either makes us prepared or helps us adapt to the next phase and makes us face various difficulties (Oktay, 2013). There are tasks that should be carried out in every phase. A child who starts primary school education without developing some skills in preschool education would have difficulties. Similarly, a child who starts secondary school education without having mastered the skills in the primary education would again face difficulties. The maturity specified here is valid for not only primary school education but also all education phases (Dinç, 2013). However, it can be stated that the competences in primary school are more important as these are the first years of life and they have a critical importance.

Primary school is valuable as it includes the most important years of a person's life after preschool education. This is the first time that the child faces tasks such as obeying the rules within a certain program and learning basic skills such as arithmetic, mathematics, and reading and writing (Oktay and Unutkan, 2003). Gaining these skills requires being ready, in other words, a maturity in every aspect. Preschool education and primary school are important as they include the most special periods of a person's life. Both institutions undertake foundations of the task of preparing an individual to life. In this respect, ensuring a coherent transition between the two institutions will facilitate the individual's adjustment to primary school. Easy adjustment to primary school will diminish the period of acquiring academic skills for the student (Akman, 2013). However, children who start primary school after preschool education believe they will go through some difficulties. In a conducted qualitative study, Koçyiğit (2014) specified that preschool children defined primary school as a big, crowded, chaotic and far place and children's sources of information related to primary school were as their families, television and teachers; in addition, it has also been stated that children believed that they could not play games when they start primary school. In line with this study, it should be aimed to enable preschool children love and show interest in primary school.

The Role of Preschool Education in the Development of School Maturity

Preschool period is expressed as the years when the human capacity is at its highest level. This period is the fastest and most critical phase for development and, in parallel, for learning. Therefore, it should be ensured that children take advantage of these years in the best possible manner. Researchers find the idea, which most of the behaviours gained in early ages continue their influence in older ages, the least common denominator. Preschool years are deemed as the period when the foundations of personality are laid and socialisation starts. Social skills that are gained in early ages also facilitate children's adjustment to social order. In short, the phase that includes preschool period can be shown as an important period in terms of having numerous forward-looking effects in the child's life (Akman, 2013; Oktay, 2013).

As specified in the preschool education program of the Ministry of National Education, one of the main purposes of preschool education is to prepare children to primary school (Ministry of National Education, 2013). This purpose is associated with the concept of school maturity. School maturity can be defined as a child's ability to reach physical, mental and social competence (Güler, 2001). Reaching the characteristics specified in this definition for children varies depending on environmental conditions. Therefore, preschool education may also be approached as a requirement for ensuring equality of opportunities in the field of education. Children are required to receive a qualified preschool education in order to start primary school under equal conditions.

It has been reported by conducted studies that children who received preschool education have more sufficient positions in terms of many skills such as cognitive, affective, psychomotor, social and self-care skills than their peers compared to children who did not receive preschool education and they reach school maturity earlier than their peers (e.g.: Yazıcı, 2002; Magnuson, Meyers, Ruhm and Waldfogel 2004; Esaspehlivan, 2006; Kırca, 2010; Çağdaş, 2009; Cinkılıç, 2009; Erkan and Kırca, 2010; Teke, 2010; Yeşil

Dağlı, 2012; Ahmetoğlu, Ercan and Aral, 2011; Lokumcu Tozar, 2011; Gündüz and Çalışkan, 2013). Additionally, it has also been stated that children who received preschool education are more prone to basic skills related to the concept of mathematics such as recognizing numbers, putting numbers in order, addition, and subtraction (Polat Unutkan, 2007; Dursun, 2009). From another perspective, it has been expressed by researchers that preschool education facilitates adjustment to school (Bekman and Gürselel, 2005; Gülay Ogelman and Erten Sarıkaya, 2013; Yoleri and Tanış, 2014). In short, preschool education has a key role in determining the school maturity which appears before us as a significant point for children who start primary school.

Attending preschool education may not always ensure the desired efficiency, what is important here is that the quality of the education provided in the preschool period should be discussed. In their study, Wong, Lou, Zhang and Rozelle (2013) emphasised that only receiving preschool education was not sufficient for school maturity and the quality of the provided education should also be high. However, in regions where preschool education is not common, it may be appropriate to attach importance to quantity as the first criterion and quality as the second criterion.

CONCLUSION AND RECOMMENDATIONS

Primary school is a period that has significant influences in a person's life. The child who faces planned and programmed activities for the first time is now in a different atmosphere and there are many tasks expected from him. In this new period, children will need to learn how to read and write and show certain arithmetic skills (Taşkın, 2011). In a period in which so many tasks are expected, it is a precondition that children have the capacity to meet the requirements of primary school education.

According to the results of the conducted studies, the influence of preschool education on school maturity has been revealed. It can be asserted that the children who received preschool education are one step ahead of their peers who did not receive preschool education. When conditions of Turkey are considered, preschool education is a requirement especially for the children of families with lower economic levels. The equality of opportunity in education as specified in our constitution can only be provided through a qualified preschool education. In addition, it is a fact that preschool education supports children in all developmental areas.

Consequently, children should be introduced to preschool education and it should be ensured that they take advantage of this opportunity. All developmental areas of children should be supported in this period. This is the only way for the children to meet what is expected from them in primary school (Yazıcı, 2002). In line with these points, the following recommendations can be given;

- It should be ensured that all children take advantage of preschool education.
- Families should be explained about preschool education and its advantages for children.
- The results of studies conducted until today on school maturity in terms of receiving preschool education should be shared with public through communication tools and it should be ensured that the society is informed on this matter.
- This subject should be approached in more detail in different studies.
- Authorities should take action to extend preschool education and in subsequent phases, to make it obligatory.
- Preschool education teachers should plan different activities to prepare children to primary school and put these activities into practice.

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A Studio Experience On Parametric Modelling Approaches

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ABSTRACT
As an outcome of digital age, parametric modeling is being used in various stages from conceptual design to building application processes. In today's world, we have so many buildings designed with parametric modeling. Naturally these changes in architectural design practices have also been influencing architectural education or forcing the formation of digital innovations in this field. The use of parametrical modeling techniques are generally studied at Master or PhD levels. And the education of these techniques has been ignored at the undergraduate level. However, it is important and necessary to adapt new design approaches, to create awareness and to experience these techniques with plenty of exercises in the early ages of the students. In this context, at Karabük University it has been decided to prepare a studio practice as a starting model about parametric modeling approaches like BIM (Building Information Modeling) and CAD (Computer Aided Design) modeling software have been used to teach our students. Revit Architecture (as a BIM tool) and the plug-ins has been used for creating conceptual mass models and modules. The content of the studio is concerned with form-finding, creation of shell structures, patterns of façade modules and adapting the created models into an architectural context. In this paper, the experiences and results of the studio are introduced. Accordingly, position of parametric modeling in the education field, the future studies about it and contributions of the used software in the studio are debated.

Keywords: Parametric modeling, conceptual mass, Computer in Design.

INTRODUCTION
In recent years, new developments and opportunities have been emerged increasingly in Information Technology (IT) and demonstrated their effects in architectural field. IT has become a part of design process with their abilities of contributing creativity and being powerful, fast and understandable presentation tool. Also they have brought new concepts in this field. Those concepts are listed as animating, topological, isomorphic, metamorphic, parametric and evolutionary architecture (Kolarevic, 2000). Especially by support of these technologies and concepts, new unique designs have increased that difficult to generate by traditional methods.

For example, parametric modeling, one of the very early applications of these digital design approaches, brings a new idea in the practice (Woodbury et al, 2006). This idea is to relate parts together and thus to define a system that exists with their mutual workings. Clearly, it follows an approach which is similar to bottom-up processes. Its results by a small change in the system are able to have much more effects than it is expected. Its approaches and applications have been used in industrial design fields (like automotive, naval etc...) for many years, but they haven't been evaluated effectively in the other design studies like architecture due to its cost and complexity until recently. However, nowadays, as it is noted above, this approach has changed rapidly in both the practice and educational processes of architecture. The special buildings like Gehry's Ginger and Fred Dancing House, Cook and Fournier's Kunsthaus Graz, Franken's "Dynaform" BMW exhibition pavilion, Otto's Olympic Stadium, Foster's British Museum, and etc…, which appear quite

different from the others, illustrates just some of these applications.

This current situation opens a new door into design and assigns new tasks to architects, students and researchers. Those consist of understanding potentials and characteristics of these tools; trying to adapt them into their designs; creating new methods and strategies to help themselves. This paper attempts to answer this question -when and where to start using these technologies in architectural design processes in education? In this study, we demonstrate the experiences on using digital design strategies which are uncommon at undergraduate education. Primarily we have focused on parametric design because it was simpler, more widespread and practical. The first studies are about understanding parametric design and what innovations parametric design brings to architectural design. Then those innovations have been examined with sample implementations in studio. Finally obtained results have been evaluated in terms of applying to architectural education.

WHAT IS PARAMETRIC DESIGN

Parametric design concept usually draws attention as phenomena which are supported by Building Information Modeling (BIM). Also this concept responds to a quite common content and requirements in architecture. About this concept, Kolarevic's definition would be much more explanatory:

"Parametric design focuses on design parameters rather than form and geometry. It is aimed at giving parameters different values and achieving different objects or configurations. With this method, mutual relationships among the objects can be made and the behavior of those objects can be defined under the various modification studies. Definition, decision and reconfiguration of geometric relationships are an explicit feature of its configuration ability."

Key concepts which are pointed out in parametric design can be explained as follow (Hudson, 2008):

Knowledge is used for reducing complexity of the problem; determining the key parameters composed of multiple variables; and managing these parameters to possess valid ranges which can be formed according to type of task.

Analysis is fragmentation of design problems into their parts for developing design goals elaborately in parametric design. Analytic definition can lead to conceive structural and behavioral variables. Analyses define specifications of the problem.

Synthesis and Evaluation: method of "Propose-Critique-Modify" is the most commonly used in the solution of parametric design problems. This method is usually evaluated in the form of "decomposition solution re-composition". In this method, a proposal is made and tested by functional requirements. Then, failures are determined by evaluating the results. According to the failures problem is re-structured by new variables, parameters or constraints.

Representation is used both textually and graphically in a parametric model.

As its current applications are examined, it is observed that parametric modeling is usually used for form-finding and optimization problems at the building finishes and shell structures with the collaboration of architecture and engineering fields (Woodbury et al., 2006). It is evaluated both technically and visually in these processes. It involves a well-defined problem with its goals and technical aspects, a model as mathematical representations of the system, and also an algorithm as a tool of generating solution spaces.

PARAMETRIC DESIGN AND ARCHITECTURAL PROCESSES

Architectural design processes are usually known as ill-defined problems due to its feature of having intuitive approaches and many different components, disciplines and stages. Naturally, it is difficult to bring the process into a unique parametric model. So parametric modeling is suitable for particular stages of the process. Also it is useful to evaluate it partially and independently. Furthermore, beside architectural knowledge in the process, architects need additional information due to improvements in digital design. Woodbury (2010) especially explained these terms about parametric modeling:

Understanding data flows: There is a data flow from independent objects to dependent objects. Designers use those dependencies while creating the models they want. Those dependencies imply relationships concerned with geometry and design rules.

Dividing and managing: Generally designers use hierarchy of closure in their works. There is an iteration system by the means of interactions between parts. With this dividing and managing strategy, design is dismantled in pieces by requirement of controllability. Those pieces are individually designed and recombined together for overall work.

Abstract thinking: Abstraction in design can differ in some situations. This represents not only a general concept that is understandable in many ways but also an indefinite concept that open to various explanations. In parametric modeling abstraction can be done by the method of intensifying and multiplying objects or nodes.

Mathematical thinking: Both parametric and traditional CAD systems include mathematical properties. When using these tools as designers, we naturally manage a mathematical truth in our designs. The difference between two systems is that designers "use" mathematic instead of "creating" it in traditional manner. When using math implies to start a mathematical reality, creating it means to generate theories with inferences. These properties have similarities with design process. So mathematics is researched in in the design implementations like Palladio and Gaudi's works. Mathematics is actively evaluated in parametric modeling and digital design. In parametric modeling, it can take part as a design strategy by using various theories and structures.

Algorithmic thinking: Processing and being well-defined are essential in an algorithm. Processing defines a method which develops step by step. "Fuzzy logic" states are dominated in design processes which require designers' interventions. Parametric systems have similar scripting language with traditional processes. They use processes like adding, removing, copying and modifying. As a result of these processes, they support the combination of algorithms and design processes by constraints, updating and graphical objects.

In Parametric modeling designers need scripting for solution of design problems. However, designers don't need to have ability of advanced programming language that programmers use. It is enough that designers have basic knowledge as long as they intervene their projects. This basic knowledge can be easily provided by short-time educational practices.

Parametric modeling seems to reduce the difficulties in form-finding strategies of architectural designs (Woodbury et al., 2006). By the way of modeling external data affecting designs and designs' response it presents an adaptive design space which can be a difficult task to obtain by opportunities of current conventional CAD tools. So, its use has become a necessity for designers in spite of its all small challenges to get used to its new terms.

Complex buildings can be created by simple configurations including copying, modifying and combining processes. Dealing with more mathematical structures and geometries creates opportunities of combining them with parametrical functions in new contexts. Also it provides to discover newer forms. In figure1, there are some models inspired by Foster's "Swiss Re" building as an example of changing configurations with the parameters like adjusting values of contours, points and heights or rates of twisting, frequencies and amplitude (Carlson, 2009).

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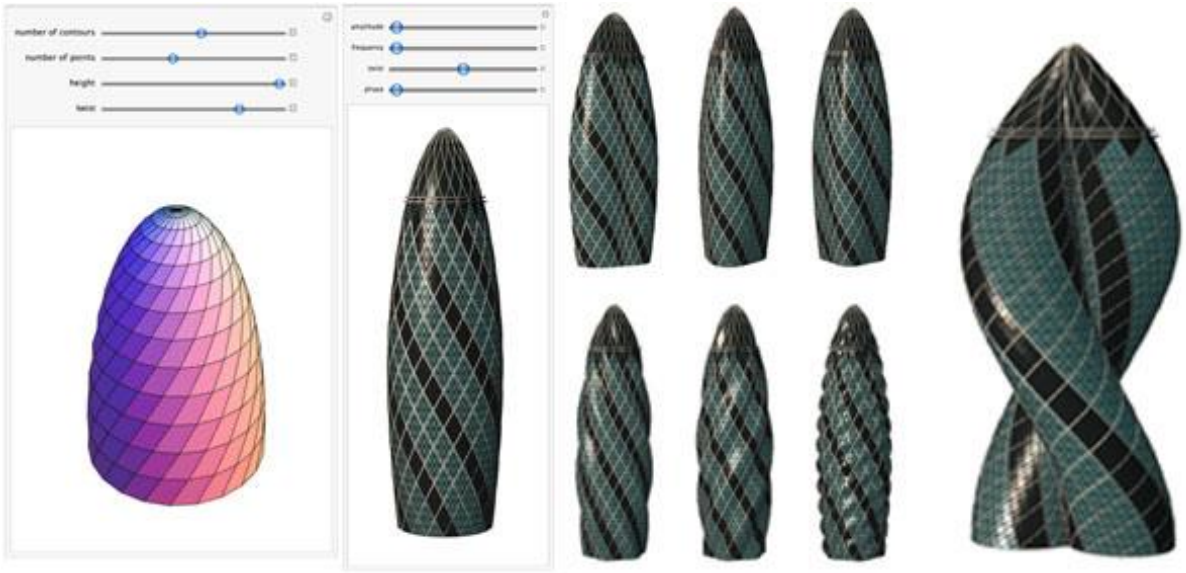

Fig. 1: Form alternatives of "Swiss Re" by using parametric modeling techniques (Carlson, 2009).

As another example of parametric modeling, a theoretical study on designs of tall buildings can be given (Park et al., 2004). This study was prepared with the aims of defining relations between design criteria and building form, exploring geometries and transformations for building forms, generating alternative forms and developing design methodologies. In the study, the parameters were composed of the criteria like total gross area, total building height, total number of floors, and aspect ratio. They were interrelated with each other. The geometric forms were based on the shapes of top and base floors which were different from each other and placed on the symmetry axis. Their vertical variations were defined by non-conventional transformations like setbacks, section morph, twist, and curvilinear. They were modeled in the framework of architectural and structural constraints. With this method many alternative form samples were produced as a basic model in pre-design stages (figure 2).

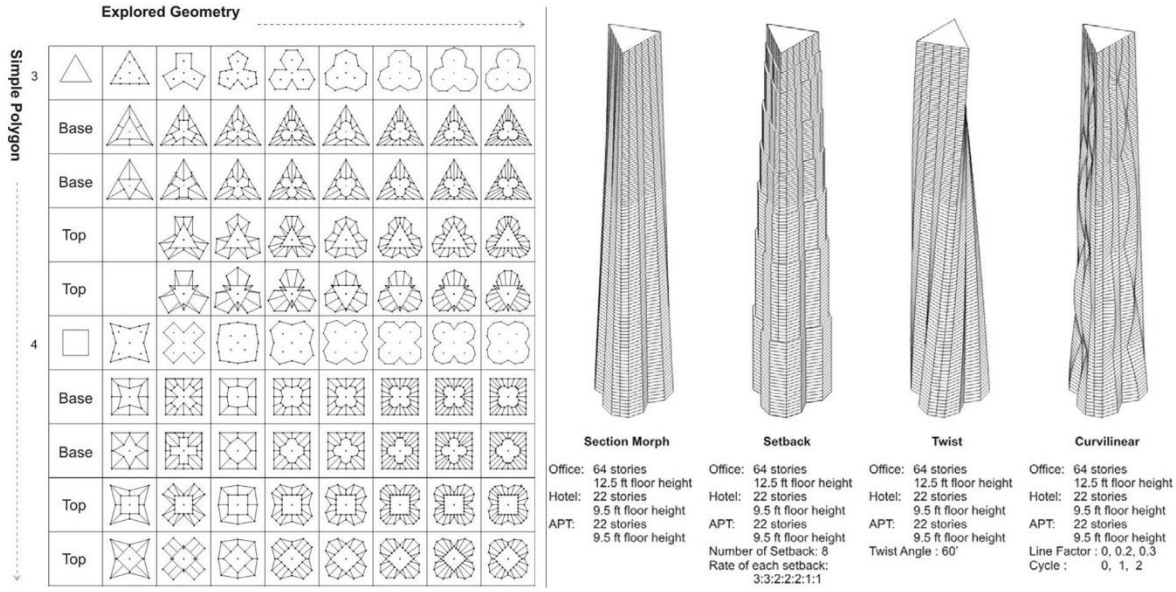

Fig. 2: A parametric design process for tall buildings (plan schemes and modifications of 3d model) (Park et al., 2004)

Depending on the effects of the developing digital tools, the generation of similar samples with simple configurations has now become applicable more easily in educational processes.

METHODOLOGY

This study is composed of educational implementations which are made in design-support course named "Computer in Design III" in 2014-2015 Fall Semesters. Course's process of education comprises two main sections. In the first section, basic education has been given to all students during 11 weeks (Fig 2). This duration is defined as phase of learning software (Revit Architecture) for general use (its properties of architectural presentation) and getting used to its language. At the end of first phase, determination of the students who are able to use the software effectively and to improve their experiences to higher level have been done. Those students have been observed separately among others in the second phase.

SYLLABUS OF COMPUTER IN DESIGN COURSE

WEEK	SUBJECT	WEEK	SUBJECT
1st	Introduction; CAD and BIM programs and interface of Revit Architecture	9th	Revit (BIM) practices (Conceptual Masses)
2nd	Learning drawing commands of Revit Architecture (walls, floors, etc...)	10th	Advanced Revit (BIM) practices (Rendering/Animation)
3rd	Learning drawing commands of Revit Architecture (walls, floors, stairs, etc...)	11th	Advanced Revit (BIM) practices (Rendering/Animation)
4th	Learning drawing commands of Revit Architecture (roof modeling techniques)	12th	Introduction of Parametric Design and Gigabidea Paretivism Toolbox, and practices
5th	Revit (BIM) practices (Site nodeling)	13th	Practices of Parametric Design (Understanding procedural approaches with rules)
6th	Basic Presentation techniques in Revit Architecture (2D and 3D models)	14th	Developing new ideas and practices
7th	Midterm Exam	15th	Presentations and Discussions of the developed models
8th	Revit (BIM) practices (Family designing)		Final Exam

Fig. 2: The working program in the course.

Second section took 4 weeks and parametric modeling processes have been endeavored. At first the concepts, creative processes and general information have been given about digital applications under today's circumstances. With this method, theoretical awareness has been raised. Then advanced features of Autodesk Revit Architecture and Gigabidea Parevitism plugin for Revit have been introduced and sample applications have been practiced. Some exercises have been done by students to gain experience about this software and plugin. In these exercises form creating methods offered by software, cross-sections designated by students and parametric components with engaged basic mathematical formulas (sine, cosine curves etc.) have been used. When students start to discover plugins capability, they were asked to design models that they imagine. Same time it was demanded from them to transform their models into architectural concepts (scale, bridge, cladding systems, ramps, shell structures, exhibition pavilion etc.). In last week, evaluation of architectural concepts, improvability and students feedback have been done. Also those studies have been supported with homework and additional applications.

Parevitizm Toolbox is a plugin prepared for Revit Architecture Software. This plugin multiplies a cross-section model (object) according to parametric index numbers and applies the specific parameters which are defined for each unit within the certain rules. In other words, it operates "indexing value" which is used in the formulations of moving, rotating, copying and formal modifications for a two or three dimensional Revit object. It has user-friendly features for learning. Modification formulas and definitions of the designed Revit object (cross-section) are organized by basic modules and interfaces of Revit Architecture except for the plugin. To summarize, the object, whose properties can be changed formally by its index value, is modeled in the main software. Then it is multiplied by the plugin. In the implementations, the massive solid models are created with the generated two dimensional cross-sections at the end of multiplication processes. Also rhythmic and modular patterns can be obtained by three dimensional cross-sections. The resulting samples have architectural potentials to use or evaluate at the different scales of the designs.

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In the studio implementations, the students' interest has been, especially, on the visual effects of the applied mathematical formulas in the form of the designed models. Depending on minor and simple interventions in the parameters, the created original geometric changes, which are difficult to obtain with traditional ways, have been influential on it. Thus students have investigated variations to be made by mathematical functions through trials. Furthermore, application steps of parametric modelling in software have needed much more users' attention at the starting stages. So students have faced with some difficulties of learning and loss of time. Nevertheless, they have introduced with new vocabularies and syntaxes (scripting, formulating, interactivity, dynamic forms, generation and etc…), beside their basic architectural knowledge.

Students have unconsciously combined parametric modeling processes with Schön's (1985) "Reflection in Action" protocol which is a typical traditional design method. In this protocol, a design process is fragmented with frame steps which can be interpreted, developed, or reconfigured by a designer. Similarly they have also used parametric modeling in specific stages of the design. According to the conditions, they have renewed their models by feedbacks on the design rules. Thus, they have actively maintained their architectural positions as the managers of the process.

25 students took Computer in Design course. 15 out of 25 students effectively participated in parametric modeling processes. The selected five works presented in this paper. After the initial exercises, these students developed their models in the scope of an architectural subject like bridge, bus station, pavilion, conceptual tall building and interior design of café. When some of the subjects were individually selected by students, the others were suggested by the instructors. Moreover, the subjects were usually decided before the creation of the conceptual models. However, in some works, the created models were adapted into architectural subjects. Finally, students usually tried to select different cross-sections (geometries) from the others in the study (Table 1).

Evaluating the created models in architectural concepts (form-finding, sense of space, human scale, structure etc.) has provided the students to use parametric modeling more consciously. Naturally, it has increased their interests on the parametric modelling practices. The students have changed the digital values of the formulas to reach demanded visuals and the architectural needs. Additionally, they have made manual modifications on the form of their models in some cases. The design criteria and 3d visualizations of the created models have shown in Table 2.

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Table 1: Basic schemes, conceptual models and actions of the students' studies.

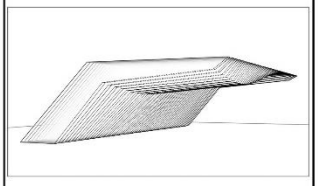
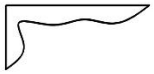
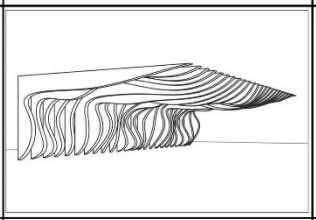
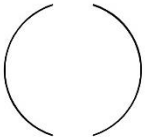
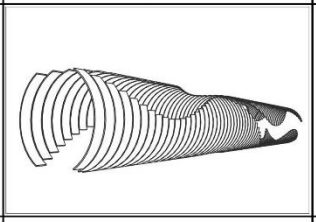
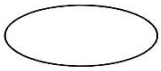
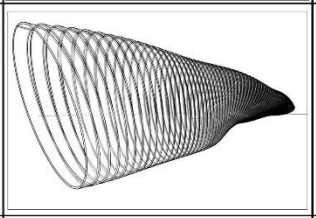
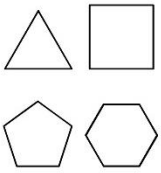
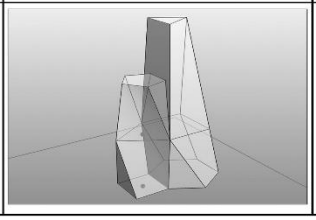
	Profile	Conceptual Mass Model	Actions
Student Work Nr.1			-Creating Profile -Engaging formulas with profile -Multiplying -Changing cross-section
Student Work Nr.2			-Creating Profile -Engaging formulas with profile -Multiplying -Changing cross-section
Student Work Nr.3			-Creating Profile -Engaging formulas with profile -Multiplying -Rotating -Changing elevantion of z plane
Student Work Nr.4			-Creating Profile -Engaging formulas with profile -Multiplying -Rotating
Student Work Nr.5			-Creating Profiles -Engaging formulas with profiles -Shape changing -Form combining

Table 2: Architectural interpretations of students' works

3D VISUALIZATIONS	DESIGN CRITERIA

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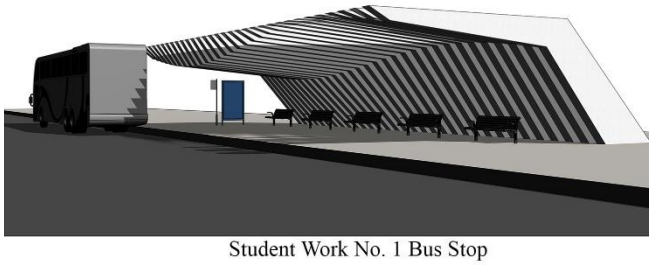
 Student Work No. 1 Bus Stop	-Form doesn't block people movement and also protects them from natural conditions such as rain, snow and sunlight. -While designing conceptual mass form of the cross-section structural requirements have been considered. -Design criteria were based on human scale.

Table 2 (Continued): Architectural interpretations of students' works

	-This project made to prevent monotony and to increase attractiveness of the interior. -The Created system components were placed manually to interior wall faces. -The actual building's cubic shape is perceived as an amorphous form.
	-This covered walkway project made as a bridge to pass a gutter and reach to a higher level. -Openings on the model provide nice scenery to people who are passing by. -The model itself gives visually rich and structurally safe perception.



Student Work No. 2 Restaurant

-Usage of the form was based on area needs.

-Rotation of ellipse cross section gave enough height for second floor after a specific index value

-With this method mass form was able to use effectively.

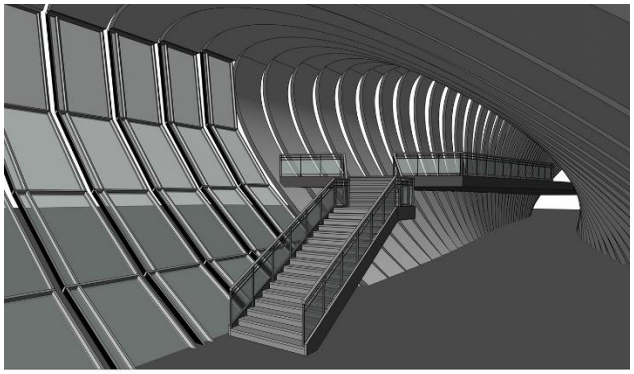


Student Work No. 3 Covered Walkway

-Different geometric shapes were used in different levels to prevent repetition of ground floor plan.

-This dynamic form's complex floor and façade calculations now can be solved due to parametric design.

-From every other angle this model will be perceived differently



Student Work No. 4 Multi Purpose Building



Student Work No. 5 Modern Office Building

CONCLUSIONS

This paper contains basic attempts about how to achieve an integration between current architectural trends and undergraduate education. This is concerned with an expanding the content of the undergraduate curriculum rather than developing a new educational method in architecture. In this context, the prepared studio practice includes the subjects such as education of the mathematics in design, digital design approaches, parametric modeling techniques and their integration of design process that the students never encountered until this time. Over the results of these studies and students' gains, it is considered that new routes about the future works can be decided. At the end of the study, these obtained gains and the actions which may be applied in future are summarized as follow:

- It has been confirmed that elaborative details about mathematics and geometry, which are also base of architecture, are highlighted by parametric modeling. Thus, it has been seen that students' visual memories are noticeably increased. It is thought that this condition satisfies an important need for basic architectural education.
- It has been observed that use of parametric modeling accelerates the interaction of architecture with the other disciplines (mathematics, biology, physique). This situation helps students to understand and conceive complex-related structure of architecture more easily.
- Parametric modeling requires logical idea, definition of relationships among components and detailed configuration of a problem. In other words, the students gain ability of multidimensional thinking by using these solution tools for a problem. The positive feedbacks in the practices have supported this thesis.
- It has been demonstrated that efficiency of parametric modeling approaches must be increased by dividing a design process into certain stages and using different parametric models in these stages by changing design rules due to complex nature of architectural design process. It is also considered that its integration with traditional processes is necessary for transition phases to digital design in education.
- In spite of learning difficulties at the starting phase, at the end of the process, creation of the forms that are very hard to imagine and model opens new horizons. The students also pointed out that these processes are worth learning.
- Learning parametric modeling in the undergraduate education provides usage of basic mathematical knowledge which is gained during the educational carrier continuously. This approach supplies designers to have an advantage about adapting new processes easily.
- For overcoming difficulties of learning parametric modeling and getting familiar to its processes, the numbers of supportive courses and studios should be increased. Otherwise the contents of the computer courses should be reviewed.

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A Visual Content Based Mobile Software For Vocabulary Learning In Secondary Education

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ABSTRACT
The objective of this research is to enhance the vocabulary learning and memorizing skills of secondary school students in English education by using mobile devices. The usage rate of mobile devices by secondary education students is increasing day by day. Text-based vocabulary learning programs should be supported by visual contents with the help of mobile devices in order to make learning more fun. In the software developed, visual content is presented as well as the equivalent of the word both in Turkish and target language during the stage of student learning. With this application, the vocabulary in a foreign language is aimed to be learned much more easier by using the visual memory.

INTRODUCTION

One of the most important courses of secondary education students is foreign language. It is necessary for a student to know the vocabulary of the foreign language in order to be able to comprehend what they read and communicate with the people using the same language. As Wilkings stated in his book, without the grammar one can communicate more or less, but they cannot communicate without the vocabulary (Wilkins,1972). In language education, students with high vocabulary knowledge are considered to be more successful than the students with low vocabulary knowledge (Kocaman& Kızılkaya Cumaoğlu, 2014). In order for enhancing the success in foreign language, students need to increase the number of the words they know. One of the techniques used for increasing vocabulary knowledge is visual technique (Tosuncuoglu, 2013). In the studies carried out in the field, it is also stated that foreign language teaching need to be audio-visual (Bağçeci, 2004).

Vocabulary has primary importance in language learning. The devices commonly used by the people should be preferred, so as to make the education of secondary school students more fun and memorable.

The access to mobile devices by secondary school students is increasing day by day. Nowadays children are able to use these devices almost from the moment they were born. Almost everybody has the chance to get hold of a mobile device. Mobile cell subscribers are approximately 72 million in Turkey and almost half of them are also have mobile internet subscription. The usage rate of smart phones and smart pads for activities like online shopping and video track reached up to %67 in our country.

The applications used for vocabulary enhancement were improved in desktop programs, they were used extensively and they are still being used today. Together with the common usage of smart phones and pads, the applications for these devices also increased very fast. Previously, those devices with limited processing capacity now have the ability to run the applications, which are normally run by the computers. In the research held by Turgut, vocabulary learning through SMS feature of the cell phones was aimed (Turgut, 2011). Sarıcoban and Özturan also aimed at vocabulary learning through the usage of SMS feature (Sarıçoban & Özturan 2013). In Saran's and Seferoglu's study, in addition to SMS feature, MMS was used for vocabulary learning (Saran & Seferoğlu, 2010). In the study of Cui and Bull, foreign language learning application software which is run by mobile devices, were developed (Cui & Bull, 2005).In the study carried out by Cevik and Kocer, text-based vocabulary learning application was developed.

The objective of this study is to enhance the vocabulary learning and memorizing skills of secondary school students in English education by supporting them visually via commonly used mobile devices. By means of this software, unlike text-based vocabulary learning programs, learning is made more fun by supporting it with visual contents. Visual content is presented as well as the equivalent of the word both in Turkish and target language during the stage of student learning. At the stage of examination, the equivalent of the word in the target language is given and the student is requested to find the answer among multiple choice Turkish equivalent or visual contents. With this application, learning foreign language vocabulary easily by using visual memory is targeted.

METHOD

Mobile technologies were used while developing the application. English education of secondary school students were supported by the English education visual content based software which is operated by commonly used mobile devices. The software uploaded to the mobile devices, which are commonly used and reached by the students through the parents, includes foreign language vocabulary and their visuals. Common foreign vocabulary were gathered under certain groups in the software. Students are able to download the requested software and the sources by connecting to the internet through their mobile devices and they keep learning vocabulary even without internet connection.



Figure 1: Language Selection Screen

A certain number of words are uploaded to the student device at first and as long as the learning takes place, new vocabulary packages are uploaded to the device. The application consists of two section through which they can learn and practice. In order for learning process, according to the selected group of vocabulary, the word, the visual and the target language equivalent are displayed one by one.



Figure2: Training screen

Upon choice, foreign word is displayed on the screen, in case the student is unaware of the word, by showing the equivalent in mother language they are requested to learn the vocabulary. The student is requested to select a test screen through which they are inquired about the equivalent of the word either in target language or mother language. As a result of the choice made, word in target language is presented and the students are asked to find the equivalent and the visual among four alternatives.



Figure 3: Test Screen (foreign language to mother language)

If the student selects 'mother language to foreign language' choice, they are asked to find the equivalent and the visual of the word in target language among four alternatives.



Figure 4: Test Screen (mother language to foreign language)

The software was used by 86 first grade secondary school students in Sakarya province who have the access to mobile devices. The students are given the chance to repeat by means of the software in the preferred time and period.

CONCLUSION

The objective of this study is to observe the effects of visual content based vocabulary learning software developed for mobile devices on students' vocabulary learning success. Mobile devices, especially smart phones, offer time and place independence compared to the other learning environments as they are carried by the students all the time. The application gives students the chance of learning vocabulary in the preferred time and place by their mobile devices in a more fun way.

Learning process is tried to be made more memorable and fun by presenting the word with visuals as well as their written forms. Moreover it is observed that enhancing learning with visual contents gets more attention when compared to the text-based teaching.

Proving that mobile devices can be used for educational purposes besides entertainment and time passing purposes, the students are encouraged to search for other educational applications. Widespread usage of

mobile devices requires preparation of more educational contents in these environments. This application sets an example.

This application can be enlarged by adding examples appropriate for the curriculum and other learning techniques in the future studies. The software can be upgraded by addressing more sense organs like audio in order to make learning much faster and effective.

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An Experiment On The Use Of Voronoi Diagram In Architecture: Howl's Moving Castle

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ABSTRACT
Voronoi diagram is basically a mathematical method that divides a surface based on distance to the points in a specific subset of the surface. The diagram divides surface into the regions based on the principle that each point is assigned to the closest point or object in the subset. The diagram, which was named after honor of George Voronoi in 1903, is applied in many different fields in science and technology including, urban design and architecture. It is commonly preferred in architecture and urban design to solve space-planning problems based on population or distance. Beside, in architecture Voronoi is used as a form finding method especially for structural forms. Within the scope of this study it is benefited from Voronoi Diagram as an early design tool in the Architectural Design Studio-4 at KTU, which was conducted by Asst. Prof. Aysun A. Öksüz in 2014-2015 spring academic year. The theme of the studio was to create a "moving castle" for Hayao Miyazaki's Howl character in the anime of "Howl's Moving Castle". The main form of the castle, which was settled in a highly sloppy and wide site, was created using three-dimensional Voronoi algorithm. There are many existing algorithm to generate Voronoi tessellation in digital environment. In the scope of this project, it is benefited from the Voronoi algorithm of Grasshopper plug-in in order to create the form of the castle. The parametric model is generated through the algorithm in Grasshopper and 3D model is transferred into Rhinoceros. The main purpose of this study is to explore the use of Voronoi Diagram in architectural design education as a design medium.

INTRODUCTION
Architectural design is a long complex process that consists of many variables including extrinsic and intrinsic parameters. Intrinsic parameters are mostly incommensurable values such as designer's own experiences, cognitive capacities and design skills. On the contrary extrinsic parameters are related to site, landscape, social and cultural data as long as these are calculable in some way (Aktaş, 2014). In architectural design education, students are taught to handle both intrinsic and extrinsic parameters. Intrinsic values increase by time and experience for the students. On the other hand, teaching how to design with extrinsic parameters those are coming from the external world, within the scope of basic design principles is a major part of the design studios in architecture education. In the design studios, students benefit from several tools, which are composed of representational techniques such as drawing, painting, collage, photography, and modeling. These tools are significant because they are the media that help the design process. Today, highly developed digital technologies push the designer to work more and more in the digital media, which is now a competitive factor. Therefore, it is important to pursue digital tools in architectural design studios not only as a representational media but also as a design tool. Regarding that use of computational tools in architecture rather than traditional CAD tool are strongly encouraged recently.

Computational tools are already applied to many phases of the design process in both education and practice. However, their application to whole process from very beginning to the end is not possible in current design practice. As Van Berkel and Bos state "It simply is not possible to foresee and to register in your computer all of the parameters that you will be working with as you engage in the long and complex process of architecture "(2006, p.14). In this project we applied to Voronoi diagram in the very early phase of the design process. The algorithm is constructed via Grasshopper plug-in and the computational model is transferred into 3D modeling program Rhino.

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THE STUDY

1. BACKGROUND

Voronoi diagram basically a mathematical technique, which subdivides a surface into the regions based on distance to the points in a specific subset of the surface. It divides space into sub-spaces (Bahramine and Babaki, 2015) based on the principle that each point is assigned to the closest point or object in the subset. The diagram, which was named after honor of George Voronoi in 1903, is also known as Voronoi tessellation, Voronoi decomposition or Dirichlet tessellation (Bahramine and Babaki, 2015).

In order to clarify how does the diagram works; we may refer to Aranda and Lash *recipe* for tiling process with Voronoi. These are the steps that need to follow to create a simple Voronoi diagram. First a set of points is taken. Then each point is connected to the closest neighbor in the set. Later bisector lines, which are halfway between two points at an angle perpendicular to the line that connects to points, are constructed. And the action is repeated for each point tin the set (2005). Ultimately, a Voronoi pattern that consists of Voronoi cell emerges (Fig. 1). Essentially, a Voronoi cell is the intersection of bisector lines that are constructed from one point to all the other points in a chosen set of points (Aranda and Lasch, 2005). In order to generate a closed cell in Voronoi diagram, at least four non-linear points should be assigned.

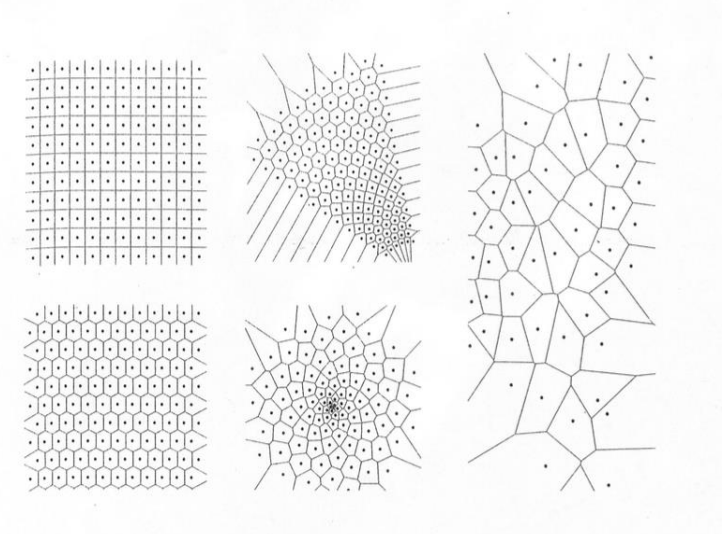

Figure 1: Voronoi formation in different set of points. (Aranda and Lasch, 2005).

Voronoi diagrams can be found in nature at every scale and are used in the study of many fields including biology, anthropology, computer science, marketing, and the growth of crystalline structures (Aranda and Lasch, 2005). Many forms in nature can be described by Voronoi diagram. It is possible to observe the Voronoi cells for example on the wings of a dragonfly, on the skin of a giraffe, in the structure of a leaf or in a soil crack pattern, etc. (Fig. 2)

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Figure 2: Voronoi structures in nature. URL-1.

Voronoi structures that are found in the nature have inspiration to many projects in architecture. Voronoi tessellation is a multi-functional geometric structure (Berg et al., 1997). It is also firmly related to another geometric structure, named Delaunay triangulation (Berg et al., 1997). They are strongly linked that Voronoi tessellation can be considered as "geometric dual of Delenuay triangulation" and "one can be derived from another" (Oxman, 2010). Thus, the diagram has a very wide application area including architecture. Voronoi tessellation can be applied in both two and three-dimensional architectural concepts for subdividing space or surfaces. According to Oxman (2010), a Voronoi tessellation is simply an example of a tiling process, which is generated algorithmically from random points that appear on a surface. C-wall is a CNC cut space-divider project is an example of surface generation through Voronoi tessellation algorithm (Fig. 3). The project is conducted at, Knowlton School of Architecture, Ohio State University and involves the process of transformation of point-based data into volumetric cells (URL-2).

Voronoi diagram is used for spatial organization as well as surface partitioning. The Vertical Village by Yushang Zhang,Rajiv Sewtahal, Riemer Postma and Qianqian Cai architects is one of the project that is generated through application of 3D Voronoi algorithm (Fig. 4). The vertical volume is divided into individual residential cells regarding regular activities such as eating, sleeping or gardening via 3D Voronoi algorithmic system, which lead to the creation of the '3d plot' or 'Vertical Village' project. (URL-3).

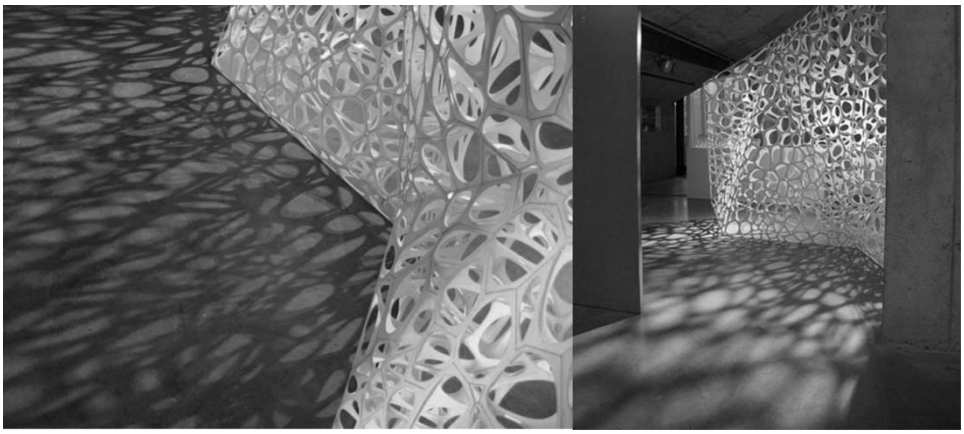

Figure 3: C-Wall project: Application of Voronoi tessellation for surface generation. URL-2



Figure 4: Vertical Village project: Application of 3D Voronoi algorithm. (URL-3)

With respect to its wide range of use in architecture as a design tool, we applied Voronoi diagram in the Architectural Design Studio-4 at KTU. In the following section, the use of Voronoi algorithm within the scope of the studio work that is conducted with the authors will be presented.

2. STUDIO WORK

Within the scope of this study it is benefited from Voronoi Diagram as an early design tool in the Architectural Design Studio-4 at KTU in 2014-2015 spring academic year. The theme of the studio was to create a "moving castle" for Hayao Miyazaki's Howl character in the anime of "Howl's Moving Castle". First, the Diagram is applied to project in the very early phases during making the zoning plans according to the given program. There are many existing algorithm to generate Voronoi tessellation in digital environment. In the scope of this project, it is benefited from the Voronoi algorithm of Grasshopper plug-in in order to create the form of the castle. The parametric model is generated through the algorithm in Grasshopper and 3D model is transferred into Rhinoceros.
In the first phase two-dimensional Voronoi algorithm is implemented for the zoning. In the second phase three-dimensional algorithm is engaged with the previous one for form finding. Main form of the castle was created using three-dimensional Voronoi algorithm in a highly sloppy and wide landscape.

2.1. Zoning with Voronoi

In the anime of Miyazaki's Howl's Moving Castle there are five main characters who live in the castle: Howl, Sophie, Calcifer (fire demon), Markl, Witch of the Waste and Heen (the dog of the Witch). Even though Howl and Sophie are seems to be the main character of the anime, each character have strong influence on the story. The center and the heart of the Castle is the Howl's fire demon Calcifer, who is also the guardian of the castle and Howl's heart. The architectural program is made through the analysis of all the characters in the anime. Special features of each character are considered while composing list of needs. According to the given program, firstly hand sketches were made regarding the centralization of the Calcifer and distribution of other functions through him (Fig. 5).

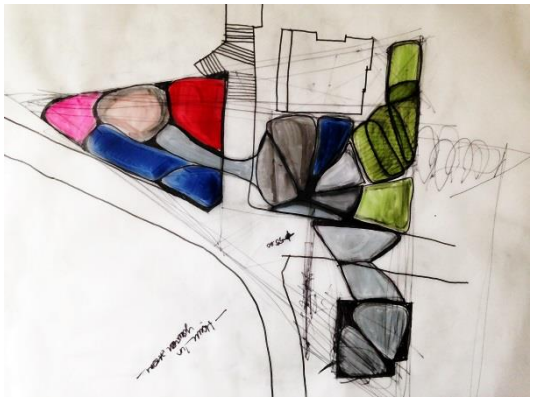

Figure 5: Very early hand sketch for the zoning plan showing the distribution of different function on the site.

This hand sketch was originated the foundation of the projects. Accordingly computational process was started. In the computational process two-dimensional Voronoi algorithm is applied to the site. Based on the given program, points are replaced the convenient coordinates on the site. Each point replace respectively in several steps and algorithm is repeated in the each step (Fig. 6).

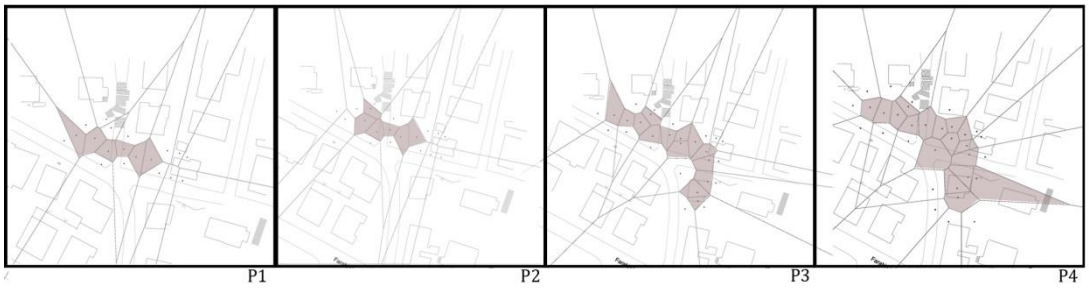

Figure 6: Computational zoning plans based on two-dimensional Voronoi tessellation on the surface. Oxman (2010) criticizes that regardless of its use, many algorithms exist that produce simple version of Voronoi tessellations from random point clouds. Instead of using random points on surface, points were assigned by the author.

The algorithm had been iterated several times until the expected zoning plan was achieved. In the second phase of the process the tessellation were tired to convert into three-dimensional form.

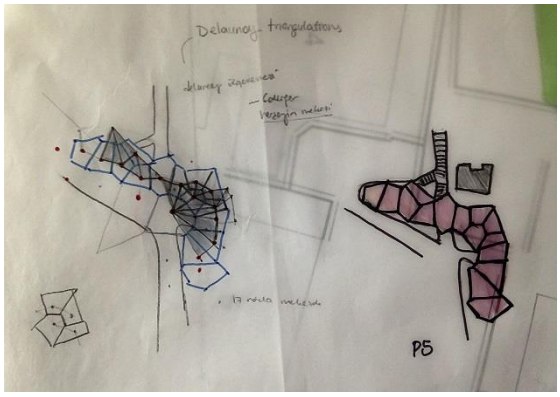

Figure 7: Hand sketch over the computational zoning plan. The sketch on the left shows the Delaunay triangulation that derived from Voronoi tessellation. On the right is sketch Voronoi tessellation in the fifth iteration.

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FINDINGS

Architects have always been in search of form finding due to their concern to have a personal signature in their buildings (Burry 2003). As it stated before advancing digital technologies provide new tools that promote designers to work with complex spatial forms. Nowadays, with the pursue of digital technologies, the number of "landmark involving geometrically complex freeform skins and structures" is increasing (Pottmann et. al, 2015). Voronoi structure is one of the most used tool as a form finding method. In the second phase of the project, three-dimensional Voronoi algorithm is used to create the form of the castle. According to the given program, points are replaced the convenient x-y-z coordinates in on the site. Instead of using random surface points, the points are assigned by the author. The parametric model is generated through the algorithm in Grasshopper (Fig. 8).

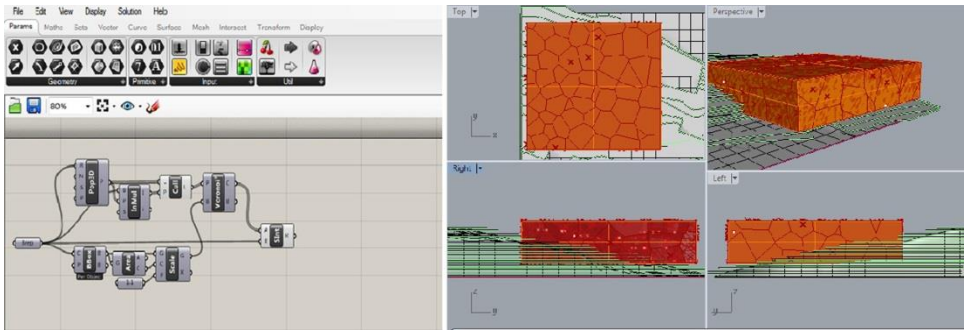

Figure 8: Parametric mass model. On the left Voronoi algorithm that constructed in Grasshopper controls the tessellation. On the right model in Rhino, which is controlled by Grasshopper.

Several explorations made through the algorithm when the desired zoning plan on the site is achieved, the 3D model is transferred into Rhinoceros. Essential subtractions over the form were made manually in Rhino. For example, the parts over the road were subtracted while the essential parts such as bearings remain (Fig.9-10). Figure 11 demonstrates the plan, perspective and front view of the form. Point cloud that constructed the foundation of Voronoi tessellation can be also seen.

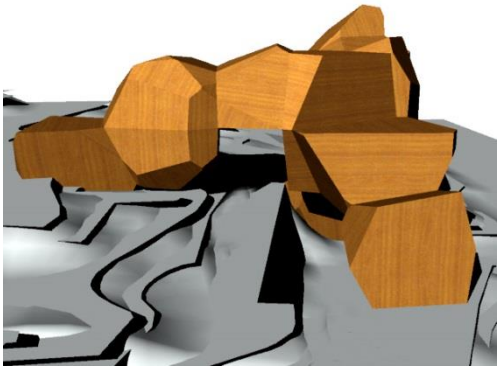

Figure 9: Elevation from East.

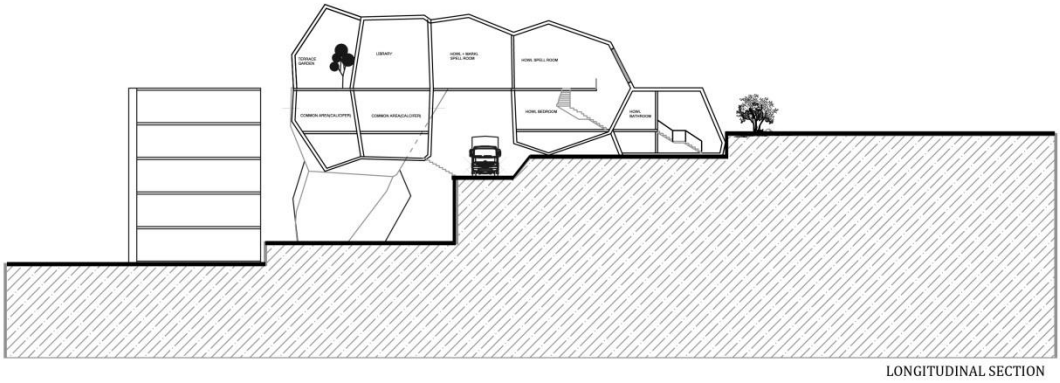

Figure 10: Longitudinal Section

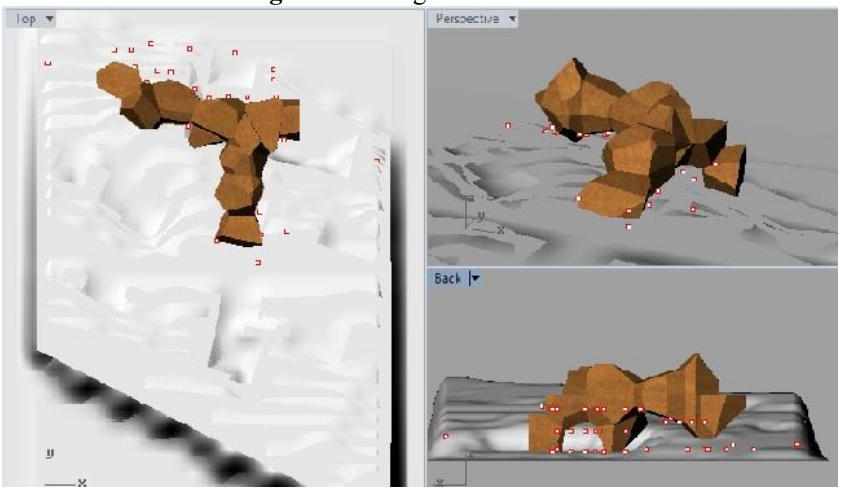

Figure 11: Plan, perspective and front view of the form.

CONCLUSIONS

Advancing digital technologies provide new tools that promote designers to work with computational tools. Therefore, it is important to pursue digital tools in architectural design studios not only as a representational media but also as a design tool. Voronoi diagram, which is also known as Voronoi tessellation, Voronoi decomposition or Dirichlet tessellation, is one of these tools that commonly used among architects in various project. The diagram can be applied in diverse way in any phase of the design process. Mostly it is used to solve complex spatial problems, surface tessellation or problems that involves equalization based on distance. Its multi-functional structural form enables diverse uses. In this project, we applied Voronoi diagram as a way of form finding in architectural design process. Thus, it is benefitted from the diagram especially in the early phases of the design process. The diagram helped to zoning planning on the site according to given program. Furthermore, it assists to create mystical form of the Howl's castle. The main purpose of this study is to examine the use of Voronoi Diagram in architectural design education as a design medium.

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Architecture And Literature: Using Literature And Novelist/Writer As A Concept For Design In The Architectural Design Process

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ABSTRACT
The relationship between architecture and literature is a significant field of argument that ascending for the last 20 years. In this field of argument, space as an outcome of subjective knowledge of literature itself is trying to be overlapped with the subjective knowledge of architecture itself. Spaces in literary texts are attempting to evaluate through architecture. Due to the fact that story arc and characters could not be created independently of a space, the architectural space is essential in the literature. However, the same situation is not valid for the architecture. If only the designer use the literature as a medium for developing concept, the literature would be linked to architecture. In this context, the aim of this study is to examine the relationship between literature and architecture in architectural design process. This examination or the experiment was conducted in 2014-2015 Fall Semester in Architectural Studio-III at KTU. The space was defined as House of Memory and the concept was chosen as Novelist and his/her novel in the scope of the project. The main purpose of the project is to observe the creation process of an architectural space through concept of specified novelist and novels by the students.

INTRODUCTION
Architectural design is interpretation, determination and documentation of conceptual, functional, figural, structural and actual features of all elements in the fiction of construction to perform all determined functions to meet requirements (Izgi, 1999). Architectural design problems are complex problems. The possible solution for a design problem must provide the demands group and the interactions between these demands. However, the amount of information about the solution of design problem is too much and it is generally about discipline (Inan and Yildirim, 2009). The architectural design is an interdisciplinary team work between own information area of architecture and many different information areas. Today, the information area of expert persons from different disciplines are needed for designing the structures with complex functions. Design progress of architecture has changed with the expertise areas of architects and different disciplines. The traditional design methods have been interdisciplinary in architecture area. This means that the architectural information area does not have its significant limits as all science areas. This immensity of architecture has especially been an important stage of architectural education. By considering the other work areas', in other words interdisciplinary frame, of architecture and education, this study targets to review architecture and literature information areas/interdisciplinary communication/effects on each other/producing each other.

The aim of this study is to question or try how literature and architecture relation is effective on the architecture production. The main problem area is how the literature may be used in architecture with their own subjective personalities, literary works, according to the interdisciplinary information content of the architecture.

This study, in which the architecture and literature relation is questioned by considering the interdisciplinary status of architecture, was made with 9 students in architectural project 3 lesson at the 2nd class of fall term 2014-2015 in KTU Architecture Faculty's Architecture Department. The project matter place was given as "memory house" to the students and the project concept was determined as the Republic Term's Turkish writers. In other words, the students designed a "memory house" for a writer to be selected among the Republic Term's Turkish writers. The main target of the project is to see how the architectural place is designed by using the determined writer by the students and the works of this writer.

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THE STUDY

Architecture, as a part of the social structure of it, a reflection of the economic and political order and a projection of the scientific and technical world, is a part of much bigger universe in terms of the production progress and the given products. It takes results and resources of production from this universe. It presents its products to the usage of this universe. Thus, the architecture has an inevitable relation with the other structures creating this universe. This inevitable relation is dominant in the production progress and the architecture evaluates each different data from the different elements of this universe within itself in order to reach the synthesis and reflect them in the product (Gokbayrak, 2007). Tanyeli (1999) mentioned that the architecture lends information from the other disciplines, the concepts belonging to the other disciplines becomes architecture's and the architecture area is a giant sponge getting all kinds of information.

After the observation determining that the number and qualification of the studies made on the area described as "interdisciplinary" in all disciplines in the recent years, the researches has been observed in the architecture area. The fact that interdisciplinary issues are questioned in almost all of these studies has caused the result of re-describing the architecture discipline's limits on the relations with the other disciplines. Because of the increase in studies with this subjects, it was thought that a new reading can be made by considering more significance on the subject, job-information limits in the architecture area, the other information areas and how and from where the limit comes (Asut, 2011). In this context, the main problem area of the study is how the architecture information area comes together with the literature information area and how they produce each other.

The relation of architecture and literature is an important discussion area which has revealed in the last 20 years. The place produced by the own subjective information of literature in this discussion area is tried to be matched with the architecture's subjective information area. In the literature texts, the places in which the mental fiction can be produced on the individual experience are tried to be evaluated with the architecture area. The literature area cannot produce event and person texture without place, it can be said that architectural place is a principle in the main fiction of literature.

Literature uses the words as information/transfer/expression/communication means. The word is an abstract product. It uses only one sense of vision as tool with the words. However, the text of word is wide or narrow as the mind limits of the reader. In other words, using a singular sense takes the literature text in a more unlimited mental activity area. However, the architect uses the place as information/transfer/expression/communication tool. The place is an extremely concrete product. Architecture uses all kinds of visual/tactile/audial sense tools.

The word's, which is used as a tool of literature, realization and materialization can only be possible with the place transformation. In other words, the word reaches to the actual expression from virtual expression with the spatial expression. The word of literature is a perception repertoire enforcing the relation between memory and places. It creates new concepts/practices by getting into the meaning layers of places.

The architectural places are expressed in the literature with literary or visual indicators, so the words (Tukel, 2010).The literature area cannot produce event and person texture without place, it can be said that architectural place is a principle in the main fiction of literature. However, this does not apply to the architecture area. The literature effects the place as much as all the other conceptualized areas at the stage of design production of the architecture product. In other words, if the designer accepts the literature as a production or concept tool at the production stage, the architecture will be in relation with the literature area. According to Meric Ugras, it is possible to make inferences between literature ad architecture in terms of representation of the physical environment. The architecture products are within the physical environment as result of the view points and needs of the producers. The places in the literature represent the physical environments of the terms with words (Meric Ugras, 2007).

Although designers/architects reveal the spatialization with more visual elements, they use words to share their thoughts. However, it cannot be said that these words have great share in the production of place. Because architecture has its own linguistic register. These words are texts which use the terminology of architecture and have meaning for their own profession groups. On the other hand, all kinds of words

produced for the place, other than the words of architects, have great roles in strengthening the presence of place (Uz Sonmez, 2007). In other words, with word, language or literature as a whole is one of the legalization tools of place.

Tumer (1982) mentioned that architecture and language relation has a more concrete history, in other words, similarities or differences between architecture and language are reviewed by various thinkers and the architects have been actually benefiting from the language all along the line. Tumer supports the language and architect relation with the following references he took from different sources. For example, Quatremere de Quincy mentioned, in the book he wrote on the Egyptian Architecture, that there is a similarity between architecture and language belonging to the whole humanity instead of a single man (Colins, 1965). According to Tumer (1982), there are situations in which language is actually used in the architecture area. For example, before designing an architectural work, a part of the research and information collection are made in lingual surface.

There is an important relation between the fictional place creating the literature and the place fiction in the architecture. While the literature text is produced by the reader again, it is possible to interpret the text with different views and understandings in changing and developing progresses. In other words, the architectural place in the literary text/mental perception and the perspective of user change and transform. The architectural place perception also changes with the changing social structure and perspectives. So, there are many similarities between literary texts and architectural places. Literature is a textual repertoire strengthening the relations between social memory and places. It creates new concepts/practices by getting into the meaning layers of places (Uz Sonmez, 2007). The architects have been working on determination of meaning in literature and adaptation of them on the information obtained. Studies mainly concentrates on two approaches. The first of them is to obtain the information on place by using the literary texts; so the production of architectural place by the architects by working on the meanings of indicators belonging to the architectural place. The second one is the interpretation of the architectural/urban place by reading it as a text; so the transformation of the information of architectural place into literary indicators. It is believed that the spatial reading to be made on the works will directly contribute to the information area (Caglar and Ultav, 2004).

Supporting architecture, characters and fiction in the literature texts is almost an obligatory tool used for creating the mental realization of characters and fiction. The other one, the usage of literature in architecture is ambiguous, it exists as long as we use. Designer is the one who brings out the architectural product. However, user is the one who feeds, develops, shapes and gives meaning to the product. Literary text is also created by an individual, as the architectural product and the reader is the one who supports and develops the meaning of literature text as the creation of meaning of the literature text. This individual partnership in the production of architecture and literature brings out this question. Can the writer have more role than the work in the production of architecture and place? With another question expression, can a place be built directly with the text producer? The main problem of this study can be seen when the question is extended as follows. How the literature is used in the education of architecture?

The transformation of paradigm work in today's design world necessitates the re-transformation of education. The whole of concepts, values and techniques regarding the other disciplines than the architecture can be used for describing the design paradoxes and solutions. The students must be aware of the changing balance of the architectural paradoxes requiring a more holistic point of view for developing the creative thinking and transforming the information flow (Erkok et al., 2005). In this context, the output point of this study is the interdisciplinary status of paradigm changes in education/area/production/design of the architecture mentioned above.

This study was made with 9 students in architectural project 3 lesson at the fall term 2014-2015 in KTU Architecture Faculty's Architecture Department. The study is a workshop lasting 16 weeks and 8 hours a week. First of all, 2 weeks of seminars on literature fiction, literature information area and literature subjects were given to the students. Later, the republic term has been limited with Republic Term Turkish Story Literature in the literature information area and the students were requested to select one different writer than each other. In this context, each student selected a different writer. Selected writers are listed as follows: Rifat Ilgaz, Aziz Nesin, Halit Ziya Usakligil, Refik Halit Karay, Omer Seyfettin, Sait Faik Abasiyanik, Orhan

Kemal, Cevat Sakir Kabaagacli/Fisherman of Halicarnassus, Sabahattin Ali. The study will be on a more consistent ground when short information on the aforementioned writers are given.

1. Rifat Ilgaz

Rifat Ilgaz was born in Kastamonu on May 7th, 1911. The writer worked as poetry, story, novel and game writer and he also wrote in newspapers and wrote memories (Bezirci, 1997). The artist, who thinks that an artist must be in close relation with the society, has defended revealing the social facts with new manners. He is against molds. He thinks that molds leave the poet behind the times. The writer's stories has developed especially in humor. Rifat Ilgaz did not see humor as a text type. He used humor together with novel, poetry and stories. He has an understanding of humor, which looks at the events with a different perspective; makes the reader anxious or tries to make nervous; shows the reader what the correct behavior is; and in which fun and laugh is only a tool (Burc, 2013).

2. Aziz Nesin

Mehmet Nusret Nesin (Aziz Nesin) was born in Heybeliada on December 20th, 1915. The writer has many works in short story, theatre, poetry and humor areas (URL-1, 2015). Nesin mentioned that the function of art is to introduce human to human. Aziz Nesin's art understanding is universal. Nesin bases his whole art life to the thesis he named continuous change. According to him, the writer is in the effort of changing the local society and the world. Aziz Nesin, who felt himself responsible against the era he lived in, tried to correct evil and he thought that the responsible of writer is this. The two primary motifs he used in his works are traditions and stories. Especially fairy tales are seen frequently in his works as forms and motifs (Ispir, 2006).

3. Halit Ziya Usakligil

Halit Ziya Usakligil was born in Istanbul in 1866. The writer is accepted as the most important writer in the era of 'Servet-i Funun'. He has works in various fields as novels, stories, discussions, trips, theatre and memories. The writer has a realistic approach to the persons and events and he reflects the psychology of novel characters with deep examinations. He gives a lot of importance to depictions. He adopted an indirectly and poetic narration instead of basic sentences. He used the luxury part of Istanbul and the types and places enthusiast of the Europe in his novels (Anonymous, 1998).

4. Refik Halit Karay

Refik Halit Karay was born in Istanbul on March 15th, 1888. The writer has works in story, novel, drama, memories and humor areas. His stories are based on honor concept, livelihoods, bad side of Istanbul (Aktas, 2004). Karay is known as political humor, story, novel writer in the Turkish literature. Refik Halit deemed love an adventure. He filled his texts with expertly-made tasty food, beautiful women and love depictions and he made Turkish get a clean, lithe, basic but lightening style (Unal, 2012).

5. Omer Seyfettin

Omer Seyfettin was born in Gonen district of Balikesir in the year 1884. The writer gave works on story, poem, article, joke, epic and novel fields (Alangu, 2010). The writer has an important place in 20th century Turkish stories and he is one of the leaders of basic language flow. The writer, who extended his stories with information, idea and good manners, is known with his small stories. He had a nationalist character and he reflected this in his works. Omer Seyfettin is the first Turkish writer to make the history a story. Exhibiting bad things and making criticism on them are the subjects he focused in his works. He has a lively style and he ends his stories in surprising manners. He thinks that the literary works must be free from ornaments and metaphors and they must get rid of word games (Anonymous, 1988).

6. Sait Faik Abasiyanik

Sait Faik Abasiyanik was born on November 18th, 1906. The writer has works on novel, short stories and poetry fields. The writer has a completely new literary opinion. He carefully selected and depicted the

characters in his stories (Sonmez, 2007). Sait Faik Abasiyanik, who has an important place in modern Turkish literature, is known with his stories. The writer, who wrote stories since the day he started writing, has also works in types such as poetry, novel and critics. Sait Faik, who is commonly mentioned in books and publishing with his stories, has an important role in the development of this type in our literature. It can be said that some works of Sait Faik are hard to be determined in terms of types. The first stories of Sait Faik are narratives based on events. The writer seems to be dependent on the story tradition in these stories. In these, the classical story structure shows itself and the social realism structure of the term's stories takes him among the artists reflecting "social facts" (Aslan, 2007).

7. Orhan Kemal

Orhan Kemal was born in Ceyhan District of Adana on September 15th, 1914. The writer has poetry, novels, short stories, theater and memory works. Excerpts from his life can be found in all of his books (Pitir, 2012). Stories of Orhan Kemal are not developed in the entry-development-result relation within a certain event; they depict excerpts from the life. Although many writers develop the surprise at the end of story as base, Orhan Kemal doesn't have this feature. Orhan Kemal's stories do not end unexpectedly. They don't end expectedly, too, the stories contain the result in themselves. The life continues and the stories are a part of this flow. Orhan Kemal's stories contain sections from the writer's life. Simple and intimate subjects selected from the life are reflected in a close language. The people introduced in the story are objectively considered and they were depicted with the local language by using dialects time to time. Social and economic status of the society were reflected by using the people in stories (Eyigun, 2006).

8. Cevat Sakir Kabaagacli

Cevat Sakir Kabaagacli was born in Girit in the year 1890. The writer gave works in story field and he made translations. He focused on sea and the lives of people earning life from the sea. The writer, who used the mythology of Aegean coasts and maritime terminologies, regulated his stories in the format of novel (URL-2; Kilicaslan, 2010).

9. Sabahattin Ali

Sabahattin Ali was born in Egridere (Ardino) district of Bulgaria on February 25th, 1907. The writer gave works as little stories, novels, poetry, drama and humor. The writer mentions that the art and the art must be realistic and the art must have an ambition. According to Sabahattin Ali, the language is the communication tool of writer and thus, it must be basic, unadomed and clear. All of his stories have a subject and all subjects are based on an event, all events were created in a certain time-place section and the event progress of all stories are developed in a characteristic following the order of entry-development-solution-result. (Korkmaz, 1991).

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FINDINGS

Table 1: The memory house prepared by student Ugur Yesilyurt of Rifat Ilgaz.

Selected Writer	Design Concepts	Design
Rifat Ilgaz	• 3. Person • Bothering • Abstraction	
Explanation of Design	The start point of design, reflection of the third person on the place with high walls, the necessity for the person to be behind the walls to make the building detected were associated with the literary style of the writer.	

Table 2: The memory house prepared by student Çağatay Algül of Aziz Nesin

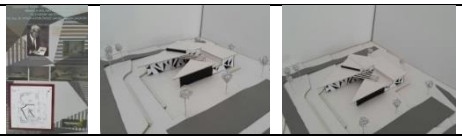
Selected Writer	Design Concepts	Design
Aziz Nesin	• Faults • Change • Social Responsibility	
Explanation of Design	The concepts such as faults and changes, the indicators of the writer's literary style, were abstracted with pointed surfaces and facade spaces. Triangle form was used to emphasize this sharpness.	

Table 3: The memory house prepared by student Furkan İnce of Halit Ziya Usakligil

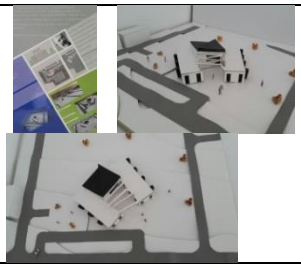
Selected Writer	Design Concepts	Design
Halit Ziya Usakligil	• Heavy Language • Love • Duality	
Explanation of Design	In the project, a deconstructivist unifying form, which reflects two main masses and reciprocal language depicting "love" and "duality" situations, were used.	

Table 4. The memory house prepared by student Döndü Erdem of Refik Halit Karay

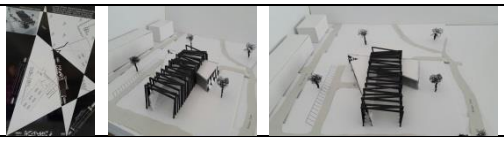
Selected Writer	Design Concepts	Design
Refik Halit Karay	• Hard, • Clear, • Detailer, • Complex,	
Explanation of Design	Matching two clear triangle forms. The spatial space created was matched with a complex structural system.	

Table 5. The memory house prepared by student Furkan Günaydın of Ömer Seyfettin

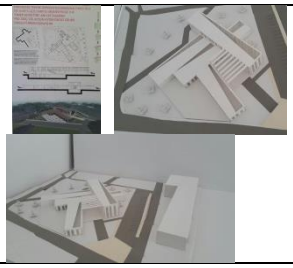
Selected Writer	Design Concepts	Design
Omer Seyfettin	• Simplicity • Layout • Association	
Explanation of Design	In the design, rectangular form, as the most basic form, was used and the forms were associated with a structural system.	

Table 6. The memory house prepared by student Buket Tabu of Sait Faik Abasiyanik

Selected Writer	Design Concepts	Design
Sait Faik Abasiyanik	• The good and the bad • Subconscious reading • Social distinction (rich and poor)	
Explanation of Design	In the design, the individual and the situation under him were expressed with a separate cover structure on a single cube form.	

Table 7. The memory house prepared by student Berat Kumcu of Orhan Kemal

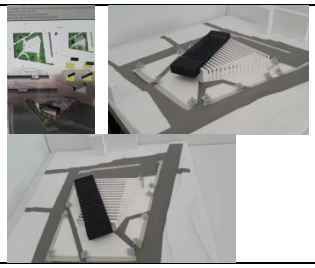
Selected Writer	Design Concepts	Design
Orhan Kemal	• Realism, • Linearity, • Simplicity	
Explanation of Design	In the design, the most basic and clear rectangular forms were matched and they were associated with extremely hard linear structure system.	

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Table 8. The memory house prepared by student Arife Kara of Cevat Sakir Kabaagacli

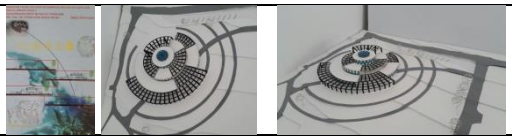
Selected Writer	Design Concepts	Design
Cevat Sakir Kabaagacli	• Fishing nets • Waves	
Explanation of Design	In the design, the place where the writer lives and the sea stories were focused and overlapping stages reflected the sea, while the structure covering spatial spaces reflected the fishing nets.	

Table 9. The memory house prepared by student Şeyma Türk of Sabahattin Ali

Selected Writer	Design Concepts	Design
Sabahattin Ali	• Time, • Social distinction, • Literate-Peasant Relationship	
Explanation of Design	In the design, two different clear forms are associated with a structural system reflecting the time. These two forms also mention literate-peasant duality.	

CONCLUSIONS

At the result of this study, which questions how literature-architecture relation is effective on architectural production, it is seen that the architecture is used as a tool to reflect mental realization of text in the literature texts and literature in architecture is effective as much as wanted to be used by the designer. In other words, concept expression/conceptualization can be made on all kinds of information areas at the production stage of architecture practice. Literature can also be accepted as any of the information areas in this field.

As a result, it is seen that the own subjective information area of architecture is overlapped with the other information areas at the design progress. Especially, production of the designed place on the concept creates more information area in the mind of student and a free design stage is described in the design stage.

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Assessing Item Validity And Reliability Of Shariah Compliant Gold Investment (Scgi) Instrument Using Rasch Measurement Model

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ABSTRACT
This paper describes the process of assessing the validity and reliability of a new instrument namely Shariah Compliant Gold Investment (SCGI). The instrument consists of 33 items that are embedded in three dimensions and was administered to 27 Malaysian investors and investment institutions. The Rasch model was used to examine the validity of items by two criteria; (1) point measure correlation (PTMEA CORR) and (2) fit statistics (infit/outfit MNSQ and z-std). The findings indicated that the reliability index for the respondents and items are high with (r=0.91) and (r=0.81) respectively with Cronbach alpha 0.93. At the same time, the item separation is 2.07 while the person separation is a value of 3.15. From the aspect of the item polarity, most of the item contributed to the measurement as all of the PTMEA CORR values are positive values between +0.44logit to +1.66logit except for the A03 item (0.17logit). The fit item testing indicated that the value of the sum of the mean of infit MNSQ and SD was between +0.68logit to +1.30logit. Only one item, A03, falls in the range of elimination due to negative value of PTMEA CORR and z-std>2.0. The results suggested the item to be removed, retaining the balance 32 items.

Keywords: gold investment; rasch model; shariah compliant

INTRODUCTION
A shariah-compliant gold transaction has been authentically justified in a few hadith, among them narrated by 'Ubadah ibn al-Samit in which the Prophet Muhammad SAW said: "Gold (exchanged) with gold, silver for silver, wheat for wheat, barley and barley, salt with salt, and they should be of equal weight scales, and shall be submitted in its entirety. If the types of goods exchanged are different, then sell without delay and submit the goods directly." (Muslim, 2010). The hadith pointed two conditions for a shariah-compliant gold investment; cash and on-the-spot transaction (al-Sharbini, 1978; al-Saddam, 2006).

In Malaysia, bothcriteria have been gazette as "Gold Investment Parameter", endorsed by the National Fatwa Association. It functions as guidance for investors as well as investment institutions. However, the parameters are too general. This has urged the Shariah Advisory Council of Malaysian financial institution to call for the parameters to be reviewed (Jakim, 2012). Recently, Najahudin et al. (2014) propose Shariah Compliant Gold Investment (SCGI) as a new guidance. Thus, this research aims to evaluate the validity and reliability of the SCGI via Rasch Measurement Model. The Rasch analyses will be focused on the interpretation of the data reliability, item polarity, fit statistics and the persons-items distribution map.

Shariah Compliant Gold Investment (SCGI)
The SCGI has been developed meticulously through systematic procedures involving relevant experts (Najahudin et al. (2014). It is more specific and consists of three dimensions; (i) investor and investment institutions; (ii) products and prices; and (iii) the contracts offered. These three dimensions and a total of 33 items have been unanimously agreed by 13 experts via two rounds of Delphi technique. Each round was implemented using a questionnaire with 4-Point Likert Scale; (1) strongly disagree, (2) disagree, (3) agree, and (4) strongly agree. Data collected from each round were analyzed using the Statistical Package for Social Science (SPSS) in order to attain the agreed dimensions and items. In the second round, the expert consensus

had successfully obtained.All items indicated that the consensus were in the interquartile range of (IQR)=0 or 1, median=4.00 and mode=4, above the 95 percentage and the median frequency distribution of 3.8 (Green, 1981). The items which has been agreed upon is shown in Table 1.

Table 1. Dimension dan Items of SCGI.

Dimensions	Number of Items	Total
Investor and investment institutions	A01, A02, A03, A04, A05	5 items
Product and prices	B01, B02, B03, B04, B05, B06, B07, B08, B09, B10, B11, B12, B13, B14, B15, B16, B17	17 items
Contract deal	C01, C02, C03, C04, C05, C06, C07, C08, C09, C10, C11	11 items

METHOD

Source of Data

For the purpose of validating 33 items of SCGI, the researcher organizes a special seminar on 4 April 2015. The seminar attracted 27 participants. Fortunately, all of them are gold investors. Prior to administering the SCGI, the researcher thoroughly explained the dimensions and items to ensure the respondents' understanding correspond to the researcher's. At the end of the seminar, 27 valid responses were collected.

Rasch Measurement Model

The Rasch model is a measurement on the probability of interaction between the person and the item. Each person will be categorized based on their temporary skills whereas the items are categorized based on their difficulty. The Rasch model was formed by taking into consideration the ability of the person answering the questionnaire or the instrument and the difficulty posed by each of the question or the item. The ability of the person and the difficulty of the item was shown in the form of logits through the transformation of ordinal data into ratio measurements. This model would be able to predict the pattern of the response based on the different ability of each of the person and the difficulty of each of the item itself. (Rasch, 1980).The probability to succeed would depend on the difference of the ability of the respondent and the difficulty of the item itself. According to the Rasch model, (i) a smarter person would have a bigger probability to agree with the items; and (ii) items that are less difficult would have a higher probability to be agreed by all of the respondents (Bond & Fox, 2007).

The Rasch model is able to provide the accuracy of the validity and reliability as it focuses on the person and the item. Moreover, this model would be able to show which of the item or construct would fit, misfit, requires further research or eliminated (Azrilah, 2010) based on the established rating scale. This study utilizes the rating scale for the statistic data of the Rasch model as shown in Table 2.

Table 2.Rating Scale Instrument Quality Criteria using Rasch Model.

Criteria	Statistical Info	Results
Item Validity	a. Item Polarity	PTMEA CORR > 0.4 – 0.8 (Linacre, 2011; Azrilah, 2010)
Item Fit	b. Item Fit	Total MNSQinfit and outfit of 0.5 - 1.5 (Linacre, 2011; Linacre, 2002)
Item Misfit	c. Separation	All items show ≥ 2.0 (Linacre, 2011, Fisher, 2007)
	d. Person Reliability	Value> 0.8 (Bond & Fox 2007)
	e. Item Reliability	Value> 0.8 (Bond & Fox 2007)

Source: Linacre (2011); Azrilah (2010); Bond & Fox (2007); Fisher (2007); Linacre (2002).

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Data analysis

The data were analyzed using the Rasch analysis software, the WINSTEPS 3.72.3. Rasch predicts the probability of a person to evaluate item, and the probability for each item to be evaluated by a person. In Rasch Measurement Model, the validity of the instrument could be identified through several major analysis such as the item polarity, person-item fit, person-item misfit, the person-items distribution map, person-item separation, unidimensionality and scale calibration (Rasch, 1980; Bond & Fox, 2007; Linacre, 2011). Though, this study only reports on the reliability value, item polarity, fit statistics and person-items distribution map (PIDM). Figure 1 summarizes the types of analyses performed.

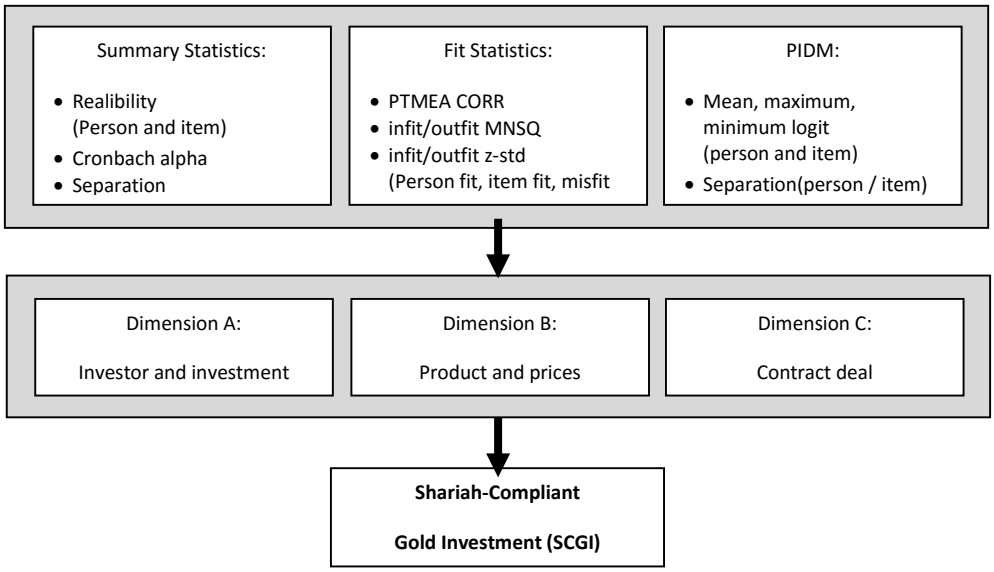


Figure 1.Analysis and validation process.

RESULTS AND DISCUSSION

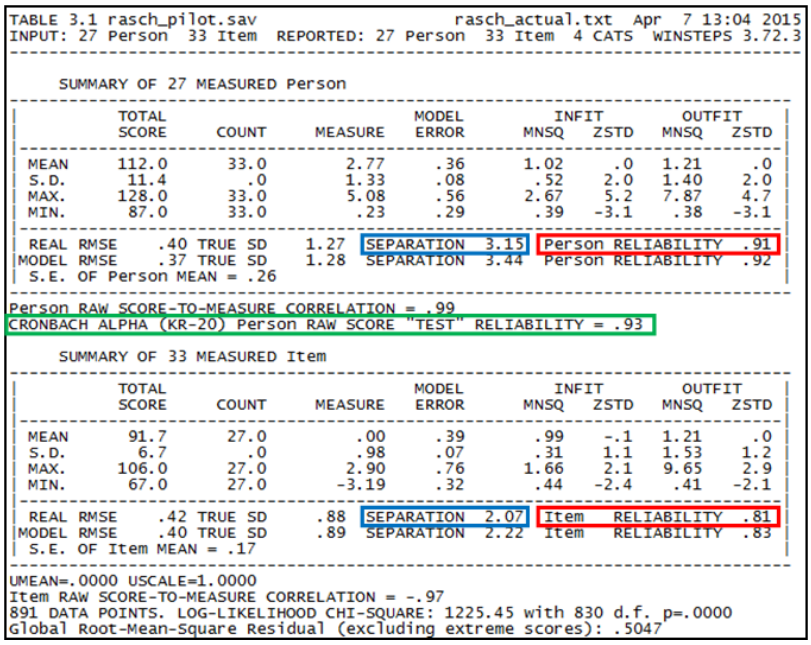
Realibility

Reliability is the index that indicates the consistency of the position of the person and item in the logit scale. The person reliability index shows the consistency of the position of the respondent when given with another set of items that measures the same construct. Whereas the item reliability index showed the consistency of the set of items when answered by a different respondent who have similar abilities. The coefficient value that is closest to 1.00 denotes a high reliability (Nunnally & Bernstein, 1994).

According to Bond & Fox (2007) and Linarce (2011), the reliability of a person which exceeds the 0.80 (≥0.80) value indicates a strong acceptance towards the respondent or the item. Whereas Fisher (2007) divided the rating scale for the reliability of a person and item into "poor" (<0.67), "fair" (0.67 - 0.80), "good" (0.81 - 0.90), "very good" (0.91 - 0.94) and "excellent" (>0.94). The accepted separation value for a person and item must be at least 2.0 (≥ 2.0) (Linarce, 2011; Fisher, 2007).

Based on Figure 2, the summary statistic displays acceptable person and item reliability values. On top of that, the Cronbach-α of 0.93 is good, indicating the instrument is a valid measurement and capable of identifying the level of shariah-compliance of gold investment products. The reliability of the item recorded a value of 0.81, which indicates that there are sufficient items to measure what need to be measured (Nunnally & Bernstein, 1994).

The respondent reliability index is 0.91, indicating a strong probability of the items to measure the same goods when given to another similar respondent (Azrilah, 2010). In addition, the separation value for respondent and item were 3.15 and 2.07, respectively. A value of ≥ 2.0 is good, indicating the SCGI ability to segregate respondent ability and item difficulty.



```
TABLE 3.1 rasch_pilot.sav                    rasch_actual.txt  Apr  7 13:04 2015
INPUT: 27 Person  33 Item  REPORTED: 27 Person  33 Item  4 CATS  WINSTEPS 3.72.3
-------------------------------------------------------------------------------

     SUMMARY OF 27 MEASURED Person
-------------------------------------------------------------------------------
|          TOTAL                          MODEL          INFIT        OUTFIT    |
|          SCORE     COUNT     MEASURE   ERROR      MNSQ   ZSTD   MNSQ   ZSTD  |
|-----------------------------------------------------------------------------|
| MEAN     112.0      33.0        2.77     .36      1.02     .0   1.21     .0  |
| S.D.      11.4        .0        1.33     .08       .52    2.0   1.40    2.0  |
| MAX.     128.0      33.0        5.08     .56      2.67    5.2   7.87    4.7  |
| MIN.      87.0      33.0         .23     .29       .39   -3.1    .38   -3.1  |
|-----------------------------------------------------------------------------|
| REAL RMSE    .40 TRUE SD    1.27  SEPARATION  3.15  Person RELIABILITY  .91  |
|MODEL RMSE    .37 TRUE SD    1.28  SEPARATION  3.44  Person RELIABILITY  .92  |
| S.E. OF Person MEAN = .26                                                   |
-------------------------------------------------------------------------------
Person RAW SCORE-TO-MEASURE CORRELATION = .99
CRONBACH ALPHA (KR-20) Person RAW SCORE "TEST" RELIABILITY = .93

     SUMMARY OF 33 MEASURED Item
-------------------------------------------------------------------------------
|          TOTAL                          MODEL          INFIT        OUTFIT    |
|          SCORE     COUNT     MEASURE   ERROR      MNSQ   ZSTD   MNSQ   ZSTD  |
|-----------------------------------------------------------------------------|
| MEAN      91.7      27.0         .00     .39       .99    -.1   1.21     .0  |
| S.D.       6.7        .0         .98     .07       .31    1.1   1.53    1.2  |
| MAX.     106.0      27.0        2.90     .76      1.66    2.1   9.65    2.9  |
| MIN.      67.0      27.0       -3.19     .32       .44   -2.4    .41   -2.1  |
|-----------------------------------------------------------------------------|
| REAL RMSE    .42 TRUE SD     .88  SEPARATION  2.07  Item   RELIABILITY  .81  |
|MODEL RMSE    .40 TRUE SD     .89  SEPARATION  2.22  Item   RELIABILITY  .83  |
| S.E. OF Item MEAN = .17                                                     |
-------------------------------------------------------------------------------
UMEAN=.0000 USCALE=1.0000
Item RAW SCORE-TO-MEASURE CORRELATION = -.97
891 DATA POINTS. LOG-LIKELIHOOD CHI-SQUARE: 1225.45 with 830 d.f. p=.0000
Global Root-Mean-Square Residual (excluding extreme scores): .5047
```

Figure 2.Person and item reliability coefficients.

Polarity of the Item

The item polarity is a precondition that must be referred to by reviewing the point measure correlation (PTMEA CORR) coefficient. Items are assumed as able to differentiate the ability of the respondents when the PTMEA CORR values are high. The value must be positive to indicate the item is moving in parallel (Bond & Fox, 2007). When the PTMEA CORR values are negative or zero, this indicates that the response of a person or item conflicts with the variables constructed (Linacre, 2011), an inverse direction of measurement and an uncommon decision making variable (Azrilah, 2010). Nunnally & Bernstein (1994) and Finlayson (2009), both believed that the PTMEA CORR item value of at least +0.30logit would be able to measure a construct systematically, whereas a value of +0.32logit would be able to merely measure in an average manner. However, this study uses the value between +0.4logit and +0.8logit ($0.4 < x < 0.8$) in order to prove that the constructed items would be able to be measured and to also be able to differentiate the respondents (Linacre, 2011; Fisher, 2007; Azrilah, 2010).

Figure 3 shows that all the items had positive PTMEA CORR values and small mean error measurement of SE (+0.39logit), except item A03, which reported a negative value of -0.17logit (SE=+0.76logit). This particular item was considered to be eliminated, as it did not measure what must be measured (Azrilah, 2010). Most of the values of the other items are between the values of +0.42logit to +0.77logit, except for 2 items that are outside the specified range that is A01 (+0.77logit) and A02 (+0.15logit). However, both items were retained, based on their acceptable infit MNSQ (+1.49logit and +1.48logit respectively) and z-std (1.7 and 0.6 respectively).

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TABLE 10.1 rasch_pilot.sav rasch_actual.txt Apr 7 13:04 2015
INPUT: 27 Person 33 Item REPORTED: 27 Person 33 Item 4 CATS WINSTEPS 3.72.3

Item STATISTICS: MISFIT ORDER

ENTRY NUMBER	TOTAL SCORE	TOTAL COUNT	MEASURE	MODEL S.E.	INFIT MNSQ	INFIT ZSTD	OUTFIT MNSQ	OUTFIT ZSTD	PT-MEASURE CORR.	PT-MEASURE EXP.	EXACT MATCH OBS%	EXACT MATCH EXP%	Item
3	106	27	-3.19	.76	1.27	.6	9.65	2.9	A-.17	.27	92.6	92.6	A03_redaP
19	91	27	.19	.37	1.66	2.1	1.60	1.8	B .42	.58	55.6	67.7	B14_laniH
1	79	27	1.66	.33	1.49	1.7	1.55	1.9	C .07	.61	63.0	59.7	A01_umurP
28	82	27	1.32	.34	1.51	1.8	1.46	1.7	D .56	.60	70.4	60.9	C06_Xsewa
14	90	27	.33	.37	1.51	1.7	1.42	1.4	E .55	.58	55.6	66.6	B09_laniE
2	91	27	.19	.37	1.14	.6	1.48	1.7	F .15	.58	55.6	67.7	A02_umurC
27	89	27	.47	.36	1.44	1.5	1.34	1.2	G .56	.58	66.7	65.8	C05_Xbyback
21	91	27	.19	.37	1.24	.9	1.19	.7	H .53	.58	74.1	67.7	B16_tunaiH
25	91	27	.19	.37	1.14	.6	1.23	.8	I .56	.58	63.0	67.7	C03_selangi
29	85	27	.97	.35	1.20	.8	1.19	.8	J .53	.60	59.3	63.4	C07_Xhibah
33	92	27	.05	.38	1.20	.8	1.18	.7	K .47	.57	66.7	68.3	C11_Xtrade
24	89	27	.47	.36	1.11	.5	1.17	.7	L .53	.58	63.0	65.8	C02_bertemu
31	94	27	-.24	.39	1.12	.5	1.07	.3	M .55	.56	70.4	69.7	C09_Xloan
7	98	27	-.91	.43	1.02	.2	.73	-.5	N .67	.51	77.8	73.0	B02_milikE
15	88	27	.60	.36	1.01	.1	.98	.0	O .64	.59	74.1	65.5	B10_QEblaku
32	95	27	-.40	.40	1.01	.1	.85	-.5	P .65	.55	85.2	70.4	C10_Xjudi
4	92	27	.05	.38	.90	-.3	.96	.0	Q .61	.57	66.7	68.3	A04_daftarC
5	67	27	2.90	.32	.95	-.1	.94	-.2	p .46	.63	63.0	58.8	A05_apsC
16	91	27	.19	.37	.94	-.1	.85	-.4	o .69	.58	70.4	67.7	B11_dapatE
30	90	27	.33	.37	.94	-.1	.88	-.3	n .58	.58	74.1	66.6	C08_Xsalaf
17	94	27	-.24	.39	.93	-.1	.87	-.3	m .58	.56	77.8	69.7	B12_tasarruf
22	86	27	.85	.35	.87	-.4	.84	-.5	l .72	.59	74.1	64.1	B17_kunciH
6	99	27	-1.10	.44	.85	-.4	.68	-.6	k .64	.49	81.5	74.0	B01_wujudE
26	93	27	-.09	.39	.82	-.6	.70	-.9	j .78	.56	81.5	69.0	C04_Xmilikan
8	95	27	-.40	.40	.67	-1.2	.73	-.7	i .61	.55	81.5	70.4	B03_pindahE
11	97	27	-.73	.42	.71	-1.0	.68	-.8	h .61	.52	74.1	71.6	B06_tautulen
10	97	27	-.73	.42	.67	-1.2	.58	-1.1	g .64	.52	81.5	71.6	B05_bentukE
18	97	27	-.73	.42	.64	-1.4	.58	-1.1	f .66	.52	81.5	71.6	B13_tahuH
12	95	27	-.40	.40	.60	-1.6	.59	-1.2	e .67	.55	74.1	70.4	B07_tmbangE
9	95	27	-.40	.40	.59	-1.6	.58	-1.3	d .67	.55	81.5	70.4	B04_tahuE
13	98	27	-.91	.43	.59	-1.6	.52	-1.2	c .68	.51	85.2	73.0	B08_beratE
20	93	27	-.09	.39	.51	-2.0	.57	-1.6	b .69	.56	88.9	69.0	B15_QHfull
23	95	27	-.40	.40	.44	-2.4	.41	-2.1	a .77	.55	88.9	70.4	C01_kontrak
MEAN	91.7	27.0	.00	.39	.99	-.1	1.21	.0			73.3	68.8	
S.D.	6.7	.0	.98	.07	.31	1.1	1.53	1.2			10.0	5.5	

Figure 3.Item Point Measure Correlation.

Fit statistics

The Rasch model provides fit statistics to detect item or person misfit. The fit statistics refer to; (i) infit and outfit mean square (MNSQ); and (ii) infit and outfit standardized (z-std); for both person and items. MNSQ is the ratio of an observation compared to the expectation. The ideal value for MNSQ is 1, when the observation correspondsthe expectation. The MNSQ value is excluded from the expectation when the total mean value of the MNSQ infit and the SD (mean iMNSQ +/- SD) is out of the specified range.

According to Bond & Fox (2007), the values of the MNSQ infit and outfit for each person and items for the likert scale must be between +0.6logitto +1.4logit. Fisher (2007) established that the fit item has a fair scale of within +0.34logit to +2.9logit, whereas a good scale has a value of within +0.50logit to +2.0logit. However, this study utilizes the range of values recognized by Linacre (2002) in which the values between +0.5logitto +1.5logit ($0.5 < y < 1.5$) in order to verify the fit and misfit for a person or an item. Usually the outfit would be more sensitive to the response compared to the infit (Linacre, 2002). The detection of the items that are misfit or outlier can be further confirmed with the z-std values that must be between the range values of -2.0 to 2.00 ($-2.0 < z <+2.0$). The ideal value for z-std would be 1.0 (Azrilah, 2010). The person or items that does not fulfil the criteria range will be considered to be eliminated, except if the PTMEA CORR values for the person and item is between +0.4logit and +0.8logit($0.4 < x < 0.8$).

This study will focus on the fit item compared to the fit person. The fit item here means that the given index has an item function and is able to measure the latent trait required. Misfit occurs when (i) the item does not measure the desired traits; (ii) the items are too difficult or too simple for the person; (iii) or there was an unstable response from the person. Figure 3 shows the sum of the MNSQ infit mean and (+/-) SD (0.99logit +(-) 0.31logit) are among the values between +0.68logitto +1.30logit, which is at an acceptable range of ($0.5 < y < 1.5$).

All of the items were accepted except for item A03 as it was outside the acceptable range of z-std (outfit 2.90) and has a negative PTMEA CORR value of (-0.17logit). Even though the infit MNSQ of item B14 (+1.66logit), C06 (+1.51logit) and B09 (+1.51logit) were beyond the acceptable range ($0.5 < y < 1.5$), allof

them were accepted as their z-std outfit were within the acceptable range (B14=1.8; C06=1.7; B09=1.4). They were also measuring in the right direction as the PTMEA CORR values were positive (B14=+0.42; C06=+0.56; B09=+0.55). Therefore, all of the items (n=33) were retained except item A03.

The index for the statistics analysis after the A03 item was eliminated is as shown in Table 3. Overall, the findings showed that the instrument has a fair item reliability (+0.75logit), mean infit MNSQ (+1.02logit) and mean outfit z-std (0.00).

Table 3.Summary statistic after removal of misfit items.

Statistics		Measures (logits)	
		Before Item Removal	After Item Removal
Mean measure	Person	+2.77	+2.70
	Item	0.00	0.00
Separation	Person	+3.15	3.19
	Item	+2.07	1.75
Realibility	Person	+0.91	+0.91
	Item	+0.81	+0.75
Mean infit MNSQ	Person	+1.02	+1.02
	Item	+0.99	+0.99
Mean outfit MNSQ	Person	+1.21	+0.96
	Item	+1.21	+0.96
Mean infit z-std	Person	0.00	0.00
	Item	0.00	0.00
Mean outfit z-std	Person	-0.10	-0.10
	Item	0.00	0.00

Persons-Items Distribution Map (PIDM)

PIDM is the heart of the Rasch model analysis, which shows the hierarchical relationship of the ability of the person and the difficulty of the item (Bond & Fox, 2007). The person with a higher ability and a more difficult item is placed at the top, whereas a person with a lower ability and an easy item is placed at the bottom. Based on Figure 2, the mean value for the evaluation of a person is +2.77logit and for the item is 0.00logit. The minimum value for a person is +0.23logit whereas the maximum value is +5.08logit. The minimum value for the item is +2.90logit whereas its maximum value is -3.19logit. This makes the total ruler length of a person to be 5.31logit against the item value of 6.09logit. The gap that is lacking between the scale of the person compared to the item to be measured is about 0.78logit (6.09 - 5.31). This hierarchical value is shown in Figure 4.

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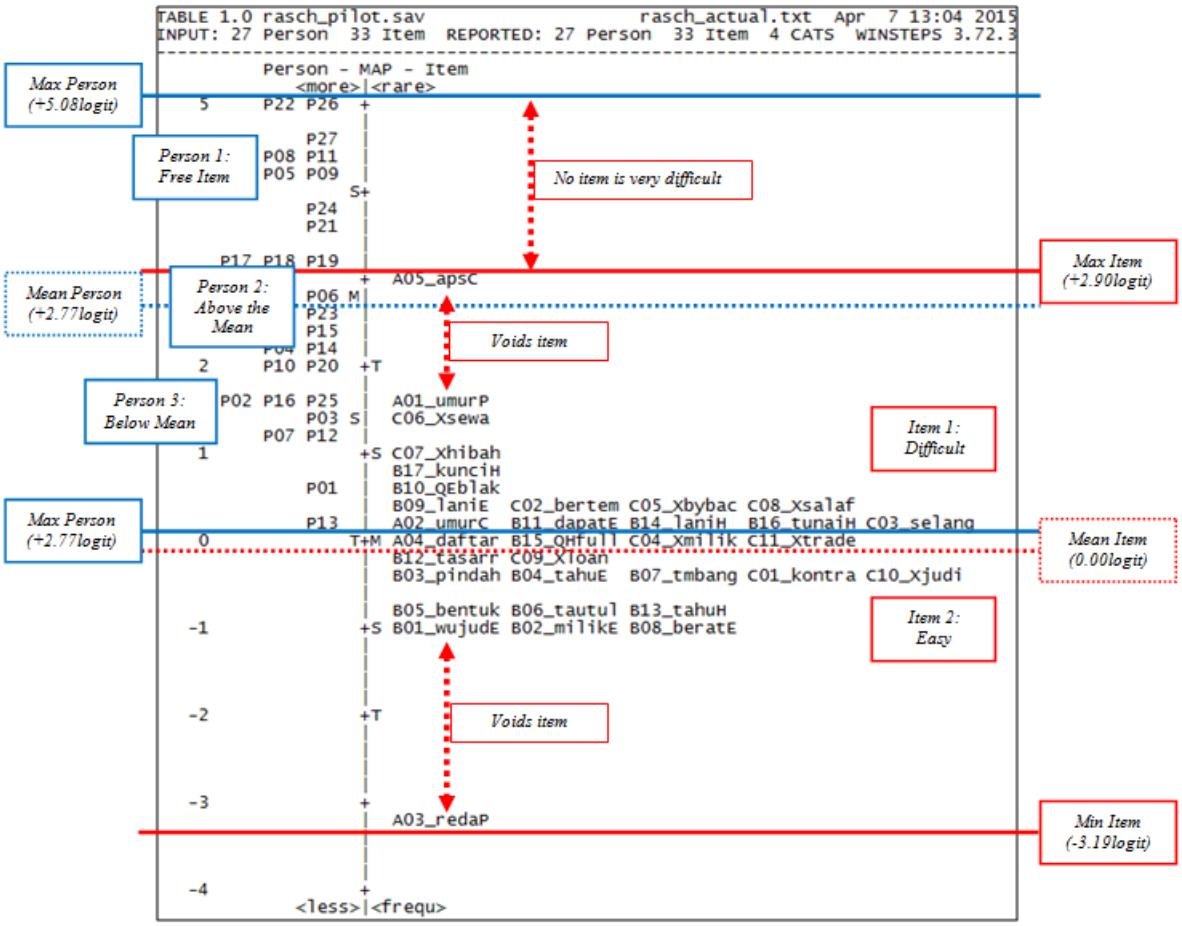

Figure 4.Hierarchy of relationship.

The PIDM above shows the ability of the item to separate the respondents into three categories that is the person free item, the person above the mean and the person below the mean. The items were divided into two categories, that is difficult and easy with the item mean (0.00logit) as the separation line. This division is aligned with the data separation of the person (3.15) and the item (2.07) as shown in Table 3. Out of the 27 respondents, Group 1 (excellent) contains 12 people that are located within the maximum item location at a range of values between +2.90logit to +5.08logit. Whereas the Group 2 (good) has 7 people located within below, at a range of +2.90logit to +2.07logit and the rest of the respondents are in Group 3 (mediocre) as they are within the range of below the +2.07logit to an item mean value of 0.00logit.

The map proves most of the respondents are item-free (person free item). More items are required to measure them. The respondents have high evaluation ratings, and had no problem to agree with most of items in the instrument. The item only measures the person in Group 2 and 3, whereas there was no complicated item to be used to measure the people in Group 1. Most of the items are easy and were below the respondent mean (+2.77logit). There were no respondents under the mean item (0.00logit). This is aligned with the view of Bond & Fox (2007) in which an easier item is more likely to be agreed upon by all of the respondents.

The easiest item to be agreed by most of the respondents was the A03 (-3.19logit) and the most difficult item to be agreed together was the A05 (+2.90logit). There are also large voids in two places that are between the items A01 and A05, and also the items B01 and A03. This made the item reliability to be at a value of 0.81.

CONCLUSION

The analysis of the Rasch model has proven that SCGI can be accepted and has a high reliability (person = 91; item = 81). Nevertheless, most of the items are too simple and easy compared to the high evaluation done by the respondents. There were no items too difficult enough to be used to measure most of the respondents. Out of the original 33 items, 1 of them was a misfit and was required to be eliminated in order to obtain a valid instrument under the Rasch model. The item A03 item (infit MNSQ=+1.27logit; z-std=2.9; PTMEA CORR= -0.17logit) was identified as a misfit and had to be eliminated, as it did not fulfil the validity requirements. The rest of the items were maintained due to their high validity characteristics (positive PTMEA CORR values; infit MNSQ=+0.44logit to +1.66logit; and z-std> -/+2). Therefore, the final instrument contained only 32 items.

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Basic Preparation For Practical Training In Preaching To The Non-Muslims Among Students Of The Department Of Dakwah And Leadership Studies, Faculty Of Islamic Studies, Ukm

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ABSTRACT
Basic preparation in preaching to the non-Muslims has to be mastered by students especially those from the Department of Dakwah and Leadership Studies (DDLS) so that the goal of *dakwah* (the propagation of Islamic beliefs) in Practical Training in Preaching to Non-Muslims (PTPNM) is achieved. The objective of this paper is to present the basic preparatory steps used by students who undertook PTPNM at the Indigenous People's Village in Kampung Tanah Gembur, Ledang Johor in 2011. Apart from that, it also identifies whether the students' basic preparation during PTPNM was sufficient or not as an improvement for certain parties. This research involves both qualitative and quantitative methodologies. The qualitative method is carried out through observation by the researchers on students who undertook the course from the beginning of its implementation until the practical training session was over. It aims to observe whether the students had tackled their training equipped with physical, mental, emotional and managerial preparations. The quantitative method on the other hand, is based on questionnaire which aims to obtain feedback from the students after they have completed their PTPNM. A total of 65 second year 2011/12 session students have answered the Likert-scale questionnaire and the data gathered have been analysed using the SPSS software. Research findings show that the students had done sufficient basic preparation, among them are that the students had reacted positively towards the non-Muslims eventhough they had to face situations which were very different in terms of religion and local customs (63%), the courage shown by the students in befriending the non-Muslims (58%) and applying their knowledge of the approach in preaching to the non-Muslims according to the suitability of time, place and conditions (60%). Hence, PTPNM's basic preparation needs to be mastered as a solid preparation and subsequently enable the mission of spreading the Islamic beliefs (dakwah) to attain its objective.

Keywords : Basic preparation; propagation of Islamic beliefs or preaching (*dakwah*); Non-Muslims

INTRODUCTION
Preaching to Non-Muslims (Code: PPPM 2023 Methodology of Preaching to Non-Muslims) is an obligatory course which students of the Department of Dakwah and Leadership Studies (DDLS), Faculty of Islamic Studies UKM have to enroll for. This course consists of lectures which are theoretical learning and also practical training as a complete learning package for the students. It is important for DDLS to offer this course

to the students, given the need for the execution of preaching to the non-Muslim community, which involves a lot of challenges. It also guides the students on how to introduce Islam as a sacred and righteous faith. Apart from that, the students are able to foster good relationship between the muslims and non-Muslims. This type of relationship needs to be initiated as taught by Islam. People who live in a community are dependent on each other in fulfilling their every day needs (Andek Masnah Andek Kalewa 2009:47).

The aspect of a preacher's self-preparation while preaching or spreading the Islamic beliefs is the basis when interacting with the non-Muslims. The execution of a preaching (dakwah) task requires the students to be prepared and possess skills to enable them to carry out preaching in a harmonious environment and to be accepted by all parties. Eventhough the students are exposed to the theories and are given guidance as a preparation prior to their getting involved in the practical training, yet this guidance should be observed and monitored as to how far it is suitable for the students and is able to assisst the students. In order to attain the effectiveness of the practical training, the students would need to carry out the basic or fundamental preparations of the practical training. Therefore, this study presents the research findings on the preparations done while on a preaching task undertaken by 65 second year students of the 2011/12 session while undergoing PTPNM at an Indigenous People's Village in Kg. Tanah Gembur, Johor in 2011.

The Concept of the Propagation of Islamic Beliefs or Preaching (*Dakwah*) to the Non-Muslims

The word '*dakwah*' (the propagation of Islamic beliefs) comes from the word *daᶜ'a*. According to *Ibnu Manzur*, the propagation of Islamic beliefs (*dakwah*) is to call upon to something or to have the intention for something. For example, to implore or supplicate to Allah and to hope for goodness from it, to call upon to combat, to implore or to call upon to perform prayer, to call upon towards religion or its sects and to encourage for it to be believed in. On the other hand, Shaikh Ali Mahfuz in *Hidayah al-Murshidin* (t.th;17) states that the propagation of Islamic beliefs (*dakwah*) is to call upon and draw mankind towards good and guidance, to carry out *al-amru bi al-makruf* (good deeds) and to put a stop to *al-mungkar* (evilness) so that they attain happiness in this world and the hereafter.

As for the term non-Muslim as written by Abdul Karim Zaidan (1987) is *ghair muslim* under the topic of *al-isti'nah bi al-ghair* in the book *Usūl al-daᶜwah*. In the Quran, the term non-Muslim is mentioned as '*kafir*' and '*mushrik*'. Whether the term is non-Muslim, *ghair muslim*, kafir or mushrik, each is correct in its own context (Abd.Ghafar Don & Ahmad Redzuwan Mohd.Yunus 2009:17). Therefore, preaching to the non-Muslims is to call upon all of them to accept or embrace the truth about the creation of mankind and in practising the harmonious code of life and the purpose of this is to strengthen their understanding so as to practise it properly in accordance with the requirements of Islam (Berhanundin Abdullah 2009:62).

In the context of Malaysia as a pluralistic and multi-racial country, the Muslims especially are required to do good deeds and to administer justice and kindness to the whole of mankind even though some of them may refuse to accept the religion, as long as they do not oppose it, fight against it, stage a war against its preachers or oppress its followers (Mat Saat Abd. Rahman 1989:5). This requisition is in line with the decree of Allah the Almighty which means:

"Allah forbids you not, respecting those who have not fought against you on account of your *religion, and who have not driven you forth from your homes, that you be kind to them and act equitably towards them; surely Allah loves those who are equitable."*

(al-Mumtahanah, 60:8,9)

FINDINGS AND DISCUSSION

The students were given lectures which introduced them to the methodologies of preaching to the non-Muslims as well as how to interact with them. The lectures were conducted for 5 weeks. Apart from that, the students were given guidance on how to deal with the target group and also the related organisations. A series of discussions were conducted between the lecturers, students and representatives of the organisations to expedite this practical training course. The students were also asked to continually discuss their planning of the programs to be implemented. In addition, they would regularly hold a special prayer asking for spiritual strength in facing their preaching task.

For this study, questionnaires were distributed to the students to gather their feedback on the suitability of their preparations with the actual realities they had to face in their task. Table 1 shows the percentage and

frequency of students' responses in relation to their preparations in undergoing Practical Training in Preaching to Non-Muslims (PTPNM)

Table 1 : Preparation While Undergoing Practical Training in Preaching to Non-Muslims

No	Item	Strongly Disagree (SD)	Disagree (D)	Unsure (U)	Agree (A)	Strongly Agree (SA)
1.	I am not shy to ask about preaching to non-Muslims to people who are more experienced than myself, such as my lecturers.	- -	1 (1.5%)	4 (6.2%)	38 (58.5%)	22 (33.8%)
2.	The presence of officials from the Department of Orang Asli Affairs helps me in terms of the information given in adapting myself with the indigenous people.	- -	3 (4.6%)	5 (7.7%)	38 (58.5%)	19 (29.2%)
3.	Involvement of the State Islamic Religious Department officers and JAKIM helped a lot in giving me guidance in preaching to the non-Muslims.	- -	2 (3.1%)	4 (6.2%)	38 (58.5%)	21 (32.3%)
4.	I was happy when I first met with the non-Muslims.	1 (1.5%)	- -	2 (3.1%)	31 (47.7%)	31 (47.7%)
5.	I felt clumsy or awkward when communicating with the non-Muslims.	10 (15.4%)	25 (38.5%)	13 (20.0%)	14 (21.5%)	3 (4.6%)
6.	I lacked the confidence in initiating a conversation with the non-Muslims.	10 (15.4%)	23 (35.4%)	14 (21.5%)	17 (26.2%)	1 (1.5%)
7.	During my first meeting with the non-Muslims, I was scared because of the different condition and environment.	6 (9.2%)	24 (36.9%)	11 (16.9%)	23 (35.4%)	1 (1.5%)
8.	I showed positive reactions while being together with the non-Muslims even if the situation happening in front of me was different in terms of religion and culture from my own place.	- -	1 (1.5%)	1 (1.5%)	49 (75.4%)	14 (21.5%)
9.	I braved myself to befriend a non-Muslim if he was shy and tried to avoid meeting me.	- -	3 (4.6%)	4 (6.2%)	45 (69.2%)	13 (20.0%)
10.	I would give up when my call in doing beneficial activity was rejected by the non-Muslims.	18 (27.7%)	33 (50.8%)	10 (15.4%)	3 (4.6%)	1 (1.5%)
11.	I would meet the demands or requests of non-Muslims which did not conflict with the teachings of Islam.	4 (6.2%)	8 (12.3%)	31 (47.7%)	18 (27.7%)	3 (4.6%)
12.	Knowledge of preaching to the non-Muslims gives me confidence in preaching properly.	- -	2 (3.1%)	3 (4.6%)	47 (72.3%)	13 (20.0%)
13.	I did not mind bringing along handbooks on preaching to the non-Muslims to obtain answers and related questions arising.	- -	6 (9.2%)	12 (18.5%)	35 (53.8%)	12 (18.5%)
14.	I practised my knowledge on non-Muslims preaching approach according to the suitability of time, place and circumstances of the non-Muslims.	- -	1 (1.5%)	4 (6.2%)	43 (66.2%)	17 (26.2%)
15.	I tried to guide the non-Muslims in their daily activities according to the teachings of Islam.	- -	1 (1.5%)	8 (12.3%)	41 (63.1%)	15 (23.1%)

Source : 2011 Questionnaire

Basic preparation while undergoing practical training in preaching to the non-Muslims in Table 1 can be seen from a number of aspects namely;

First, the communication between the students and their lecturers, officials from the Department of Orang Asli Affairs and officials from the State Islamic Religious Department as well as the officers from Malaysia

Department of Islamic Development (JAKIM) on duty while PTPNM was being conducted. Apart from communicating with friends, an aspect which needs to be prioritised by the students is to communicate in the form of queries, sharing of experience and discussion with the lecturers as well as the officials involved about the best and most effective approach when facing the non-Muslims' diverse attitude and behaviour. Based on the lecturers and officers' knowledge and vast experience, students were able to make them as important information and this would make it easier for them to preach to the non-Muslims. The students' communication with the lecturers and officers concerned is able to make the students more knowledgeable in planning their preaching strategies as well as to be more mature in acting according to time and situation. The findings in Table 1 show that the students were not shy to ask about preaching to the non-Muslims to more experienced people such as their lecturers (A: 58.5% & S.A:33.8%), getting information from the officers of the Department of Orang Asli Affairs in adapting themselves to the indigenous people (A:58.5% & S.A:29.2%) and the involvement of State Islamic Religious Department officials helped the students in giving them guidance in preaching to the non-Muslims (A:58.5% & S.A:32.3%). This form of communication encourages the students to conduct meetings with other parties and this is the best way in creating results which are firm, stable and true. This is very crucial especially in safeguarding the interests and welfare of the target person or group (Mohd. Farhan Abdullah 2008:17).

Second, the students were ready in terms of their emotional aspect and feelings when facing the non-Muslims such as expressing their joy when meeting the non-Muslims, accepting the conditions of the non-Muslims, having confidence in initiating conversations and meetings as well as being courageous. Preparation in terms of their emotional aspect and feelings are really needed by the students as an early preparation in facing any type of situation, difference in background, religion, language, culture, custom and lifestyle of the non-Muslims. All of these could be obtained from lecture-based information, vast reading of reference sources such as the newspaper, magazines, journals, books and such. The advantage of seeking early information is that it eases the students in understanding the lives of the non-Muslims and subsequently to positively prepare their emotions and feelings without presenting their negative characteristics and attitudes. In reality, emotion is able to shape a person's attitude as well as his personality (Mahmood Nazar 2001:314).

According to Mohd. Farhan Abdullah (2008:20), a preacher needs to have certain basics such as to have faith and to practise what is being preached, to determine and organise methods or approaches which are suitable according to time and circumstances, knowledgeable as well as wise based on their religious experiences in mastering the knowledge of '*fardhu ain'* (individual responsibilities) and '*fardhu kifayah*' (responsibilities of the whole community), to have full confidence in what to be delivered, wise in solving problems which are expected to be asked by the target person or group of people and striving to find solutions to the problems. These basics are able to help the students in preparing themselves in terms of their emotions and feelings when facing the non-Muslims in any type of situation.

The findings in Table 1 show the students' preparation in terms of their emotions and feelings namely the students were happy when they first met the non-Muslims (A:47.7% & S.A:47.7%), awkward while communicating (SD:15.4 & D:38.5%), lacking in confidence to initiate a conversation (SD: 15.4% & D:38.5%), showing positive reaction in facing different situations in terms of religion and customs (A:75% & S.A:21.5%) and are courageous in befriending the non-Muslims (A:69.2% & S.A 21.5%).

Third, the aspect of the students' positive attitude while undergoing PTPNM is really emphasized because it helps the task of preaching to run smoothly. Examples of positive attitudes practised by the students are by showing commitment and diligence. A schedule of preaching activities was prepared for the students on a daily basis and they did their part by carrying out the tasks wholeheartedly even though they might have been tired and exhausted. For example, the activity of paying a visit to their foster families and joining the families in telematches. This type of action develops a sense of closeness and this causes the relationship between the students and their target group to have no obstacle in attaining the goal of preaching.

Next, the students tried to practise their knowledge in preaching to the non-Muslims which they had gained from the lectures. For instance, the various ways and approaches being performed in relation to the suggestion on strategies of preaching to the non-Muslims, understanding and adapting oneself to the non-Muslims' background, the technique on how to make the target group to understand the teachings of Islam, psychological methods and spiritual therapy when faced with obstacles while carrying out their preaching task and so on. Practising the knowledge of preaching to the non-Muslims in the field will give a significant impact on the students and this will give them priceless experience in strengthening their skills in preaching to the non-Muslims in the future.

Apart from that, students would refer to the preaching handbook as well as providing answers to queries on issues of the non-Muslims. In this matter, the students were equipped with modules on preaching to the non-Muslims as well as additional references about guides on effective preaching, specific guide on '*Fiqah Muallaf', 'Fiqah'* in interacting with the non-Muslims and so forth. For example, when the issue regarding the regulation of shaking hands with non-Muslims of the same gender is asked, it is not against Islam since their physiques are not filth, instead it is their faith which is not based on the worship of Allah the Almighty. In this regard, the students were prepared to guide the non-Muslims on the teachings of Islam in terms of their understanding, appreciation and practice of Islam. For example, in explaining that Islam is simple where all the necessities in our lives are permitted by Islam. While the ones that are forbidden by Islam are just a few since they could cause infamy to mankind. Islam is able to solve marital problems between husbands and wives. If a divorce takes place, they are then still allowed to go back to living together (Abdullah Muhammad Zin & Padzal Mokhtar 2009:98). Apart from that, the students would explain about the duty in performing the obligatory prayers as a sign of worship or devotion and gratitude of a Muslim for all of Allah's benevolence.

The students would also carry out their roles and responsibilities as preachers by making it easy to deal with the non-Muslims, for example by fulfilling requests which are not against Islamic regulations, such as entertaining the foster families in having meals, joining in the performances during their cultural night, getting involved in activities of mutual assistance and so forth (Abdullah Muhammad Zin & Padzal Mokhtar 2009:90).

The findings in Table 1 show the percentage of students who had given up hope in performing beneficial activities (SD: 27.7%, D:50.8%). This means that the students had not given up hope, instead they had given their commitment and diligence in carrying out beneficial activities. The students also practised their knowledge of preaching to the non-Muslims (A:72.3%, S:A20%), made reference to preaching handbooks as well as providing answers to queries on issues of the non-Muslims (A:53.8%, S.A:18.5%), guided the non-Muslims in the teachings of Islam (A:63.1%,S.A:23.1%) and fulfilled the non-Muslims' requests which were not against Islamic regulations (A: 27.7%, S.A:4.6%). In reality, the aspects of commendable attitudes and behaviour need to constantly be shown by the students as preachers in proving the truth about the teachings of Islam which demands its followers to do good deeds. This could attract the non-Muslims in approaching Islam and subsequently wanting to embrace the religion voluntarily (A'dawiyah Ismail 2011:160).

SUMMARY AND SUGGESTION

Thorough preparation is needed in approaching the target group, especially in terms of culture and customs. This could be seen from the interaction with the targets. Although majority of them did not feel awkward, nonetheless the number of those who agreed and strongly agreed in feeling awkward were more than 26%. The same goes for the question related to initiating a conversation, a total of 27.7% agreed that they were not confident and 36.5% were scared in starting a conversation. This matter needs to be addressed by enhancing the students' understanding about the target group's culture and customs. DDLS needs to invite representatives of the indigenous people who have embraced or converted to Islam to give exposure to the students about the basic preparations in preaching if their target group is the indigenous people, likewise if the target is other races.

The aspect of early preparation while undergoing PTPNM requires attention from both the students and DDLS so that the students are able to face their preaching tasks systematically apart from having the capability to face various obstacles and challenges with courage and perseverance in achieving the honourable goal of the propagation of Islamic beliefs (*dakwah)*, which is to call upon mankind towards the religious guidance of Allah the Almighty which is sacred and righteous and also to practise it consistently.

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Body Image And Self-Esteem Through The School Curriculum

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ABSTRACT
The paper deals with body image – the area with increasing concern for children – both girls and boys, parents, teachers, psychologists and all educators. The growth and the power of social media bring the pressure on young people with unrealistic image of beauty. We draw attention to the school curriculum and try to find and offer valuable place for all related issues (knowledge, understanding, attitudes and skills). We will discuss the content of body image curriculum and provide statistics in relation to body image. Encouraging the development of positive body image in young people has a significant impact on their emotional wellbeing. The research in this area shows impact also on study results of children, positive participation, aspirations and positive classroom atmosphere.

INTRODUCTION
What is body image? Easy answer is – body image is how you see yourself when you look in the mirror or when you picture yourself in your mind. It encompasses your believes about your own appearance, your feelings about your body – your weight and height. We all have feelings about the way we look. As well as we all have ideas about how others think about our looks. Our body image is strongly influenced by beliefs and attitudes of society, the media and the peer groups around us. Having a positive body image means that we see ourselves accurately and we feel comfortable in our body. A person's body image is thought to be a product of their personal experiences, personality, and various social and cultural forces.

The term body image was first coined in the book *The image and the Appearance of Human Body* written by Paul Schilder, the Austrian neurologist and psychoanalyst in 1935 (Schilder, 2007). He meant an image that we all develop and maintain as an essential part of our identity: the sum total of our perception and feelings about the looks and attractiveness of our own body. The concept of body image is used in different areas – psychology, psychiatry, medicine, philosophy, cultural studies and gender studies. There are various conceptual, methodological, protective, preventive and practical issues, which need immediate research.

The term is often used in the media. Many girls and young women compare themselves to models in films, ads and fashion, and try to be closer and closer to them in physical attractiveness. The pressure in the culture, fashion and other media on thinness can be psychologically detrimental to the well being of young people (Šramová, 2014). The researchers and health professionals are directing their attention to boys as well. The messages are so strong and powerful that they affect young people long before they are exposed to fashion or beauty ads. Many teachers confirm that nine- to twelve-year- old girls said they wanted to be thinner. It's because the vision we have of our own body plays fundamental role in our relation to ourselves, to our fellow human beings and to the entire world around us. The perception of us may result either in satisfaction and dissatisfaction. Researchers seem to agree that dissatisfaction with one's body is multidetermined (Crespo et al., 2010). The level of body satisfaction determines the degree of one's body confidence, body esteem, and body dissatisfaction. Two people could appear identical but due to a combination of biology and experience, one may experience negative body image while the other has positive body image.

According to the Education Act of Slovak republic No. 245 from 2008 (ISCED 1- lower primary education, ISCED 2- upper-primary education, ISCED 3- secondary education), the aim of education is to enable students to: …." Learn how to develop and cultivate their personality and lifelong learning…., and ……"learn to control and regulate their behavior, take care and protect their health and the environment and to respect the universal human ethical values".
The primary education curriculum (grades 1-9) includes 7 learning areas (language and communication, mathematics and information technology, nature and society, man and values, man and the world of work, art and culture, health and movement). There are also cross-curricular themes that serve to extend the subject content matter. The contents can be included in the individual subjects, organized in the form of courses or offered as optional subject. The cross-curricular themes are: personal and social development, environmental

education, media education, multicultural education, safety education in traffic, life and health protection, project development and personal skills, regional education and traditional folk culture.

New curricula give the teachers and subject commissions the possibility to adapt the educational programs to the conditions of individual schools and teachers. Teachers are free to use the teaching methods and textbooks of their choice (from a list approved by the Ministry of Education). This enables the issues of body image and self-esteem to run through most of the core themes. The teachers can mention the body image not only explicitly but they can offer also implicit learning.

THE STUDY

Body image is usually measured by asking the subject to rate their current and ideal body shape. The difference between these two values is the measure of body (dis)satisfaction. Currently from 40 to nearly 100 instruments for the measurement of body image exist (Thompson, Altabe, Johnson, & Stormer, 1994).

The researches indicate that exercise-based interventions and psychotherapeutic interventions are effective at improving body image of the individuals. The parental and familial factors also exert strong influence on the positive or negative body satisfaction of the children. Increased sense of general social pressure to have an ideal body, frequent teasing by parents and peers, parental values and quality of relationship are some of the factors that contribute to the level of body satisfaction (Tiwari & Kumar, 2015). The individuals may be protected from negative body image by increasing their individual resilience (Peplau et al., 2009). As Vancu (2014) states encouraging the development of positive body image in young girls and boys can have a significant impact on their wellbeing and health. Poor body image can significantly affect health and wellbeing and is an obstacle to effective learning, participation, aspirations and attainment.

METHOD

Participants came from a sample of 1st grade teachers (N=182). Participants included 175 women with average age of 35.7 years. The 12-question self-constructed questionnaire was completed via the online survey realized during March 2015.

The aim of the survey was to explore:

- how important they feel body image is for their pupils?
- how useful they have found resources they have used so far?
- how they could be better supported in promoting positive body image as part of the school curriculum?

FINDINGS

- 85% of teachers agree that attractive children are more popular, both with classmates and teachers,
- 91% of teachers felt that body image has the most impact on pupils in year 3 and 4 (8-10 years old),
- when delivering body image lessons 89% of teachers teach all pupils together, regardless of gender,
- 94% of teachers felt that the lessons on body image delivered in their school have had a positive impact,
- the majority of lessons on body image were provided solely by a teacher (78%) as opposed to an external practitioner or a combination of both,
- 100% of teachers try to provide a safe learning environment for all pupils although 78% of them are not sure whether they reach this aim,
- 89% of teachers consider providing the knowledge education about body image the most important, then attitudes and then skills,
- in 25% of cases, the teacher delivering the lessons on body image lacked confidence in delivering them,
- 85% of respondents felt that body image has an impact on the wellbeing of their male pupils, versus 95% of teachers who felt that body image had an impact on the wellbeing of their female pupils,
- 100% of teachers have familiarized themselves with the school policies and procedures before teaching lessons on body image,
- 91% of teachers use images as a powerful way of conveying messages to pupils,
- 85% of teachers use less formal setting (sitting on the carpet, sofas, beanbags rather than desks and chairs).

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Issues teachers asked for more support on are : body image for the disabled, gender identity issues, guidance about working with BME pupils, issues concerning on gender and sexuality. Our teachers consider as effective teaching approaches: group work, draw and write activities, circle time, role play, using photographs, micro-debating, storytelling, activity days / weeks and using "visitors". According to Hamranová (2013) group work, draw and write activities are the most effective technics used in all trainings or social-psychological activities in 1st grade of primary school. There are always the questions, which pupils may wish to explore, but which they feel uncomfortable asking in front of the rest of the class. In this situation the teachers support the pupils via an anonymous question box. Although there are inherent risks with using external visitors / speakers, teachers often ask for help school psychologists or social workers. Working with parents is always helpful, the school can share information, advice and sources of further support on its school website or while regular meetings with parents.

CONCLUSION

Schools have great position to support girls and boys in positive wellbeing, higher self-esteem and body confidence. Our school curriculum and school environment offers the possibility to promote the development of positive body image, what leads to effective learning about healthy lifestyles. The space for providing positive body image teaching and learning is within the educational area Health and movement. Pupils develop abilities and acquire knowledge, skills and habits, which are a part of a healthy life style. They should acquire skills and habits for effective spending of their leisure time and at the same time knowledge on health effect of the skills and habits adopted. Some schools offer "advanced" social and psychological trainings for pupils during the whole school term with the accent on developing of positive self-esteem. The body image curriculum should be in the hands of every elementary school teacher. Children should be taught from early school years to recognise and resist unhealthy pressures and messages, and to be motivated to make choices that will increase their health, well being, body image and self-esteem. There is a need to change an approach from "thin ideal" or "body mass" to "health-enhancing behaviours" which teaches children to care instead of compares their bodies.

Teachers are trained to be able to develop learners' key competences. The training activities of pedagogical and non-pedagogical employees are being organized with aim to develop professional skills and to support the development of educational programs in schools. Continuing education is an important part of professional development for teachers.

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Brand Building Of A University As An Integral Part Of The Educational Process

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ABSTRACT
In relation to the quality management of universities it is necessary to follow and strategically manage indicators that formulate (measure) not only international rankings (QS World University Rankings, U – Multirank, etc.) but also national indicators because these are often linked to the financing of particular universities. University reputation among its stakeholders is one of the major indicators, too. This paper deals with the results of the primary survey (qualitative and quantitative) analyzing the impact of various factors on perception of the image of universities in the Czech Republic and it has designed a model of brand building in the key "moments of truth" from the period when an applicant develops their interest in study, through the educational process, till working with alumni and co-operating entities in order to create a positive image.

INTRODUCTION
Moderny assurance came into the European higher education from the United States where they had been developing since the 1950s and 1960s in reaction to the need of establishing some autonomous quality assurance mechanisms. Western Europe acquires its first experience with the new way of external quality assurance in the 80s, Central and Eastern Europe in the 1990s. In each European country, the system of external quality assurance was brought to life in its own peculiar way and with regards to different historical experiences, culture and traditions of its higher education it has crystalized into various forms. (Kudrová, Smrčka, 2013) According to a differential role of the state, centralized and spontaneous systems of external quality assurance can be distinguished. The centralized systems are formed in the direction from above as a state's regulatory tool. The outcome of evaluations is usually an accreditation granted by a state authority (ie. by the government or a ministry).
The spontaneous systems of external quality assurance are formed in the direction from below usually as a result of the efforts of higher education institutions to prove their quality by means of an external authority, the aim of which is to gain an advantage over institutions without a similar proof of quality. These systems are typical for the plurality of quality-assuring agencies with different levels of provided services, with a relevant specialization, as well as with the regional anchoring.
This development is symptomatic for the entire European scene which is in this case not only the EU but the countries of the European Higher Education Area (EHEA). The Europeran Association for Quality Assurance (ENQA), established in 2000, is the most influential association among accreditation agencies. Five years later, the key document was drafted by the ENQA called the Standards and Guidelines for Quality Assurance in the European Higher Education Area (abbreviated as ESG). The Standards and Guidelines for Quality Assurance in the European Higher Education Area define three levels of standards: 1) for the internal evaluation at a university, 2) for the external evaluation, 3) for the standards that must be met by accreditation agencies.
The centralized quality assurance systems were in the Czech Republic until 1999 provided under the Ministry of Education. Upon the amendment of the Act on universities, this function was passed onto accreditation committees. However, the subject of this article is the analysis of the spontaneous system of a university, ie. factors influencing the quality of a university and its perception among its stakeholders.
The quality of education is closely related to the quality of studies. In the discussion about the quality of studies, Witzany (2002) draws attention to the link between studies and the quality of an educational process, ie. with the mediation of knowledge, its clarification and verification. An educational process provided by a

university department has basically three types of clients: Students who come to the university with a demand to acquire required higher education, employers whose priority is to take on graduates prepared for the practice, and the state which within the Czech public education system becomes the only paying client. The quality becomes then predicated by so called outputs, and these are not only numbers of graduates, statistical criteria, but also their knowledge, competences which should represent one of the benefits of such studies as well as of the objectives of the same. These outputs are consequently compared within the country as well as internationally.

Among the global rankings of higher education institutions there is among others QS World University Rankings. QS WORLD UNIVERSITY RANKINGS is operated by the QS Intelligence Unit with its seat in London, where the requested data are sent. Roberts (2001) mentions two fundamental Barnett's axioms from which the evaluation of the quality of higher education stems. The epistemiological axiom is the assumption of certain "quantity" of objective knowledge with which students should be familiar and which they should demonstrate with confidence.

The other axiom is based on the assumption that objective knowledge is developed and spread provided the fact that educational instutions are relatively autonomous and the academic community is relatively free. This axiom is affected by relations of the state to its educational institutions. Many questions may be implied from these assumptions that include for instance the issue of setting the objective criteria for evaluation of individual subjects and programs or the internal and external quality assurance. It is obvious that setting the quality criteria for the evaluation of education is more demanding than in the case of the quantitative criteria. The QS Ranking fully respects the mentioned axioms and thus it is partially based on the so called hard data and partially on the data of the two large global reputation surveys, this being between academics and employers – in essence it is a global "peer review" survey. Due to their weight in the final result (50%) of evaluated higher education institutions it is apparent that the reviewers put a great emphasis on the outcomes of both the large surveys.

According to (Barusman, Rama, 2014) Strong corporate reputation affects satisfaction (Lim et al., 2000; Andreassen & Lindestad, 1998). Image is an integral part of the reputation and is often used interchangeably with no clear difference between the two (Chun, 2005). Research conducted by Thomas (2011) reveals that the reputation of the university is able to improve the Student Satisfaction and Student loyalty by using two dimensions, namely; Perception of the general reputation of the university and Perception of study program reputation. Another study concluded that the image is an important role to customer satisfaction and customer loyalty (Wang & Wu, 2011; Ozer & Aydin, 2004)

Reputation of a university in all target groups is formed by a number of factors: the quality of education, employability of graduates, scientific achievements of the school's educators and other These parameters for creating not only the quality but frequently also the added value. The value adding schools their prestige, acknowledgment, which may be one of the decisive factors for the prospective applicants. If a university does not work as a credible, high-quality, well-functioning entity, its position in the Czech market becomes difficult. The reputation of a university, long-term building of a high-quality, scientific and compact unit are the guarantee for a well-established brand. From the perspective of a commercial product functioning, the brand is an important attribute which is relevant for the customer's decision. The individual themselves applying for university studies becomes a client of the university. They become clients for they are the source of finance and no school, nor any commercial entity, will work without finance. In numerous instances when students are accepted for university studies, they pay for the offered products (tuition at private schools). In the case of public universities, the financial subsidies are granted by the Ministry of Education, Youth and Sports (hereinafter referred to as the MŠMT), when in principle it is true that the number of students of a school reflects its financial entitlement. This is an allowance per student which is further multiplied by a coefficient of the demandingness of a study subject. The allowance is also established by the MŠMT and stems from the assumptions for financial demandingness of the place for assurance of a high-quality teaching. A simple example of a comparison of the brand significance in the public and commercial sector offers an important similarity in brand building. In the Czech Republic to this date there operate 44 private, 26 public and 2 state universities. That is 72 organizations in total campaigning for Czech and international university students applicants (MŠMT, ©2008-2010). Each entity in the market searching for their clients should nowadays consider loyalty of their clients to their products, building positive associations of the brand, building the brand value, image and other parameters which are the prerequisites of successful functioning of the brand within the market. There is a number of parameters which become analyzed by enterprises to be

able to effectively plan and target their clients. The following article will focus on the analysis of the important factors for creating an image (reputation) of a university based on the analysis of the secondary data sources as well as the realized primary researches.

Within a decision-making as well as an educational process, there are many moments which form the applicant's and later student's experience. This is a valuable, frequently predominant indicator of satisfaction and loyalty, especially in services which are intangible, heterogenous, etc. In 1989 John Carlzon described them using an example of Scandinavian airlines (of which he was the director) as the MOT – Moments of Truth. His study became the basis for a two-phase system applying the search for the moments of truth in the sphere of higher education in the Czech Republic which was conducted in the second half of 2014.

METHODOLOGY OF THE STUDY

The aim of the survey was on the basis of a qualitative phenomenological research to define the process and moments of truth of a decision-making process of a university studies applicant (Perception of the general reputation of the university), and later to verify its results on the sample of 220 students of marketing communications at Tomas Bata University in Zlín (Perception of a study program). The third analysis relating to the issue of the image and its influence on brand building of a university was conducted for the representatives of the real world of business/enterprise practice. The results of the research conducted in commercial enterprises may become applicable for the area of educational institutions, and the impact of the brand building criteria may be deduced by means of a comparative method in general terms on brand building of an educational institution. Within the realized focus groups with managers of Czech companies, 23 essential attributes were identified impacting image building. Focus groups were conducted in 2010 by the authors. Based on the results of the qualitative research, further research was carried out when employees of Czech companies (n=367) were addressed with the CAPI method. The aim of the research was to analyze the impact of pre-defined attributes on image building. In 2015 another phase of the research was conducted with the aim to determine the shift in the perception of the attributes impacting on brand image building. With the CAPI method employees of Czech companies were addressed (n=109). The significance of the criteria in image building was demonstrated by means of Likert scaling.

This comprehensive view on the perception of the moments of truth and the factors impacting the applicants, students and the enterprise practice is the primary basis for setting a more effective brand-building of a university with regards to the specifics of study subjects, or other factors of the environment.

FINDINGS

The results analyzing the influence of individual factors on the perception of a university's image in the Czech Republic and the framing brand building model in the important “moments of truth” are structured in two parts. The first part interprets the results of the research with the group of applicants, and the second part with the representatives of the real world of business/enterprise practice.

For the qualitative part of the research, the respondents were chosen with one selection criterion for achieving heterogeneity of participants according to specialization of secondary schools, ie. so that the research was entered into by students of grammar schools, secondary specialized schools (technical schools as well as business schools) as well as secondary vocational schools. In total, 12 interviews were realized with 6 girls and 6 men aged 18 – 19. As was already mentioned above, the aim was to understand the subjective reasons and experience of the individuals, the influence of social, cultural and other factors and interactions between the individuals and the university environment. The scenario comprised of 3 basic phases of an interview:

1. The initiation process of a secondary school graduate (taking a maturita exam) – ie. the decision whether to go to university or into practice, their ideas about studying a university, and so on.
2. The process of choosing a particular university – reasons, motives, selection criteria, influences,
3. The factors impacting the perceived image and its communication tools.

The findings show that higher education for the young people means better employment, employability, higher pay, greater opportunities (experience, study abroad), and last but not least personal development in the field (especially in narrowly profiled schools – eg. graphics, medicine). Applicants expect that they will gain experience from the practice already during their studies at university. Based on the interview responses, we may speak about two groups of potential university students at the beginning of the last secondary school year. Those who have made their decision and have profiled know what study subject and school they will aspire after, and those who have made their decision to go to university, but have not profiled yet. Both the groups undergo the following information process which at first is passive from their side when they attend

presentations and the cooperation with the university, they record achievements and successes of university students and graduates in PR reports etc. Then the 'active' phase follows when they are already interested in communication activities of the particular university (the Internet, promotional materials and events – fairs, open days). From the results it can be then recommended in what way to "show the direction" to prospective students, to present possible occupations and offer school as a plausible preparation for the exercise of the particular occupation.

An important thing for positive image building is to cooperate with teachers of technical subjects at secondary schools, to offer them eg. cooperation with universities, use of university laboratories so that secondary school students have the opportunity to "experience" the university environment. It is further appropriate to communicate employability of graduates and stories of the successful ones, or to support spreading positive references with current students, or within graduates' clubs, to involve employers of the graduates into communication. The given results are only inspirational. Due to the sample size and the character of the research method the findings cannot be generalized. Thus they were verified in the quantitative manner on the sample of 219 applicants for university studies of marketing communications at Tomas Bata University in Zlín, when the aim was to verify especially the reputation, image of the particular study programs. The applicants reported employability of graduates, the quality of educators, the scope for personal development and the fruitfulness of students and graduates as the key factors for the choice of a university, which proved that it is not important to work "only" with the hard data, but that the "soft" data are necessary to be communicated, as well as emotive stories based on the real successes of students, graduates and teachers who are not only the source of competitive advantage but also of the particular school's references.

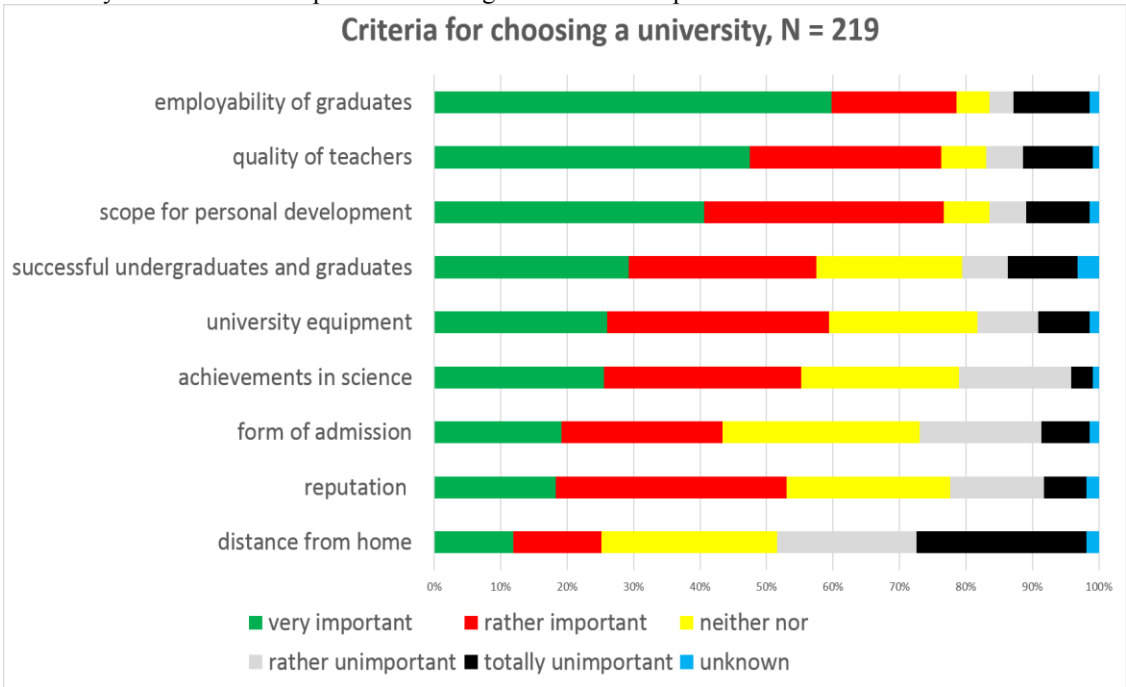

Table 1: Criteria for choosing a university

When asked about the primary source of information on the chosen university, one third of respondents stated that their source were their friends (among university students or graduates), education fairs (in 23%) and websites (in 21%). Social networks appeared as a priority only in 8% of respondents, however, their relevance has been increasing significantly in the phase in which the applicant gets actively involved into the student life at university.

The results for the applicants obviously show that the moments of truth are most significant in personal encounters (fairs, events, etc.) and references from students and graduates. Regarding the recommended communication, it is the information on employability, "quality of teachers", but also the scope for personal development of a student. A high importance is also attributed to emotional communication.

In the second part of the research, the managers of Czech companies responsible for image and communication building were addressed with the aim to verify what brand-building factors they regard as

crucial, because it can be assumed that these will also be observed in potentially cooperating universities. By means of focus groups 23 essential attributes were identified which impact image building. Consequently, their perceived significance was verified in a quantitative research. These attributes are not perceived simply as good or bad, however, rather as more or less significant in the frame of benchmarking. A part of the perception of image building attributes are emotions which become utilized in the marketing communication tools. "Stories" related to the brand, the ability to show the brand as a part of a human life, to arouse emotions linked to the brand they all have a significant influence on image building and the client then perceives the brand by means of such emotions. Correctly selected emotions accompanying the brand may markedly enhance perception of the company's image and build a long-term relationship of clients to the brand.

In 2015 a research was conducted with the aim to determine the shift in perception of the general and corporate impact of the attributes on brand image building. Managers of Czech companies (n=109) were addressed with the CAPI method. The importance of the criteria in image building was analyzed in general as well as particular corporate environments. Likert scaling show the results of the survey.

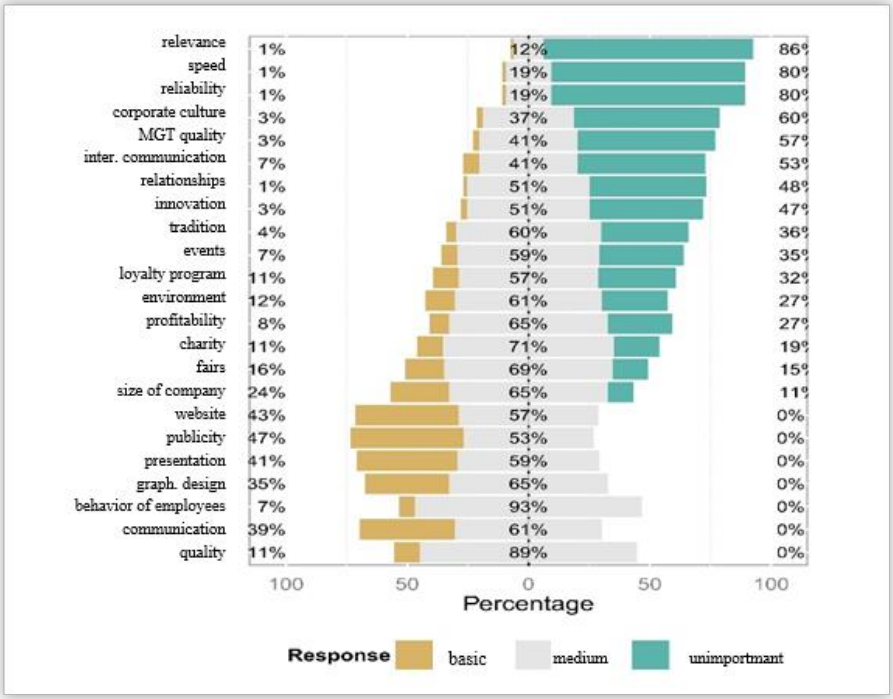

Table 2: Likert scaling of the importance of criteria in image building

The most important criteria for image building in general perception are: publicity, brand presentation, website presentation of the brand. All these criteria are part of public relations, therefore it can be deduced that public relations tools are crucial for brand image building.

From the survey in two stakeholders (potential students and potential employers) the factors were tested impacting the university image building and their relevance in the individual phases of the university brand-building. The results may profile a model for brand building based on the efficient management of relationships with the stakeholders in the moments of truth:

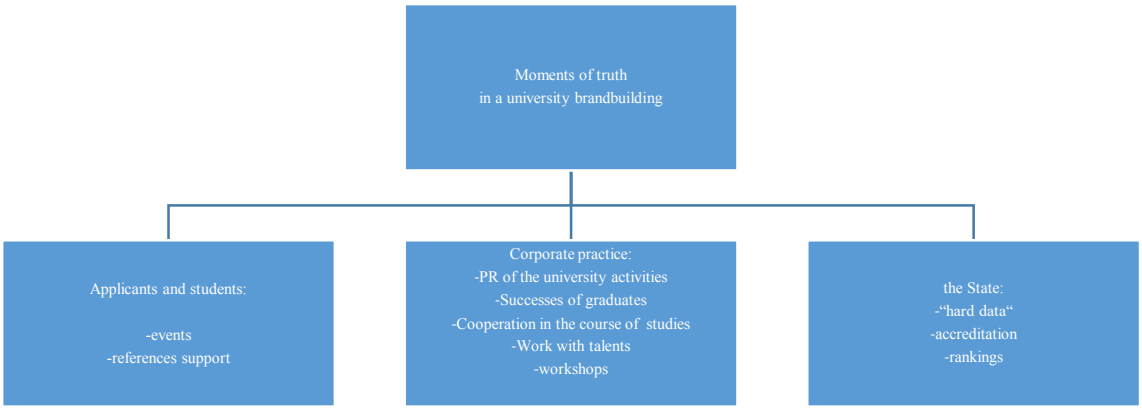

Table 3: Moments of truth in a university brandbuilding

DISCUSSION

Service providers, with who the clients enter into direct interaction, become the face of the company. What the experience of clients with the services are and how satisfied they are with their quality is thus proportional to the quality of their encounters with the employees. They then become greatly responsible in terms of transmission of values, goals and the validity of promises which the company bound to observe. This is also the case of providing services in the field of higher education when an educational process works with 3 target groups. On the basis of the analysis of the moment of truths according to Carlzon, the options for efficient brand-building were uncovered for the management of tools and communication content – see the figure above. Managerial leadership according to Carlzon is an example of how important it is to delimitate the moment of truths in services. The feelings of clients and their experience with the service become equally significant. Universities invest considerable financial means into information systems and therefore setting an interim analysis of the moments of truth status in their modules becomes a possible solution and thus a considerable improvement of satisfaction and loyalty of the stakeholders may be achieved.

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Can An Exergames Training Program Improve The Jump For Height Skill In Childhood?

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ABSTRACT
Exergames technologies have been proposed to support the mission of the physical education teachers. In this respect, we evaluated the efficacy of an exergaming intervention for improving the motor pattern and the strategy related to vertical jump skill in middle childhood (experimental group). A control group was used for the comparison. Assessment procedures were realized with qualitative instruments and with an objective approach implemented by means of the Microsoft Kinect. The performance of experimental group improved after the training, and some objectively indexes were statistically different in pre-post evaluation. The exergames have been confirmed good resources for physical education teachers.

INTRODUCTION
Today, the children live in a society where the technologies have became ubiquitous. The children study using e-book, communicate with cell and social network, share photos, songs, and files with their peers using cloud services, and spent more time playing with videogames or surfing on internet. Considering the use of new technologies at schools, in several school subjects technological aids have been integrated to support the teacher's work and to increase the involvement of the children (Webb & Cox, 2004). In this respect, a promising technology for physical education curriculum (PEC) is represented by the exergames (Enis, 2012; Giblin, Collins, & Button, 2014). The exergames are videogames where the player has to play moving their bodies. The children who play with the exergames have shown an increasing of their physical activity levels. As well, the use of exergames seems to be worthwhile also to promote healthy and active lifestyle. Furthermore, several researchers showed the use of exergames is correlated with health-related parameters, as the reductions of waist circumference, of the body mass index, and of the percent body fat (Mhurchu, *et al*., 2008). The increasing experience in exergaming is also associated with high level of physical activity (ie., moderate to vigorous level) (Sell, Lillie, & Taylor, 2008). Considering the aims of physical education curriculum in primary schools, the acquisition and the improvement of the Fundamental Movement Skills (FMS) are the main goals. The FMS represent the baseline of the movement, and their role in the lifetime physical and sport activities has been defined critical (Payne & Isaacs, 2012). Likewise, the proficiency of the FMS has shown positive relationship with the children's participation in daily physical activity (Fahimi, Aslankhani, Shojaee, Beni, & Gholaki, 2013), with the children's involvement in sport and non-sport activities (Gabbard, 2011), and with the children's weight status (Castebon & Andreyeva, 2012). The development of the FMS is not naturally correlated with the growth (Gallahue, Ozmun, & Goodway, 2012), but it has to be supported from the early childhood with an adequate training protocol reinforced by specific skill-related feedback (Payne & Isacs, 2011; Gabbard, 2011).

The exergames are considered potential training strategy for the aims of PEC in primary schools. The use of the exergames is appealing to children and seem to be useful for the development of the FMS (Papastergiou, 2009). Likewise, the children who play with the exergames learn so much and experience reinforcement of positive feedback from emotional pleasure and positive results (Barnet, Hinkley, Okely, Hesketh, & Salmon, 2012). The exergames represent an opportunity for educational pedagogy students and researchers for studying the relation between these tools and the situated learning theory (Enis, 2013). Moreover, the exergames and the exergaming technologies have been suggested for the assessment of the FMS because they can provide valid and comparable data (Giblin, *et al*., 2014). However, in order to support the use of these tools in the physical education curriculum, several recommendations related to the design of the exergames interface have to been followed (Sgrò, Schembri, Nicolosi, Barresi, & Lipoma, 2013).

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In several previous studies the exergaming training strategies have been compared with others physical activity interventions for supporting the acquisition and the improvement of the FMS in childhood. The exergames technologies mainly used in these studies are: the Nintendo Wii® and the Microsoft Xbox®. The Nintendo Wii use two types of controllers for the interaction with the exergames: the Wii Remote® and the Wii Balance Board®. The first is a wireless controller equipped with a triaxial-accelerometers sensor: the players hold the controller in their hand and its movements are used as input for the game. The Wii Balance Board® is a low-cost force plate, equipped with four strain-gauge sensors, usually used for the interaction with the Wii's games based on balance exercises. The Microsoft Kinect® is the controller used by the Xbox for the interaction between the players and the games. The Microsoft Kinect is a low-cost motion capture device that used depth sensors to detect and acquire the movement of the players located in front of it. Later, the acquired movements 'data are encoded in input for the game by means of marker-less techniques. Sheehan and Katz (2013) investigated the effects of an exergaming training strategy for the improvement of balance skill within the children of an elementary school. The exergaming intervention (6 weeks, 5-6 times per week, 34 min. for session) has been compared with a training protocol specifically developed for agility, balance, and coordination skills, and with a third group of children involved in typical physical education activities. The authors suggested the exergaming training strategy increased the balance levels of the children more than the others interventions, especially respect to the children involved in PE activities. Likewise, Vernadakis and colleagues (2013) addressed the levels of stability in childhood students with experimental pre- and post-test design approach. Two groups of children were involved in exergaming interventions based on Xbox Kinect games (EG) and in traditional physiotherapy training (PT), respectively. The third group of children did not receive any balance training. The results of EG and PT groups were statically better than the ones of the control group. Of note, the authors suggested the use of Xbox intervention for the development of balance skills. The use of the exergames has been also suggested for the training of object control (OC) skills in early elementary school children (Vernadakis, Papastergiou, Zetou, & Antoniou, 2015). The authors studied the effect of an exergaming intervention based on Xbox games (8 weeks, 2 times per week, 30 min. for session) against a traditional training of OC skills, and a control group who was not involved in any structured OC training. The assessment of the developmental levels of OC skills was based on the results of the test of gross motor development 2 (Ulrich, 2000). The measurements were repeated three times: pre-training, post-training, and one month after the end of the training (retention test). The results of the measurements related to the exergaming group were in agreement with the ones of the traditional training intervention. The exergaming group showed remarkably and statistically difference in pre-post test and in post-retention test, while the control group did not showed the same results. Indeed, the authors suggested the use of exergames also for the training of OC skills.

At this time, there is a lack of studies on the effect of exergaming training for the development of locomotor skills, as walking, running, or jumping. Jump for height is one of the FMS that as a critical role in many daily and sport activities of children (Gallahue, *et al*., 2012). Several researches have studied the developmental levels of this skill among children (Williams, Saunders, Maschette, & Wilson, 2013; Floría and Harrison 2013), even using exergaming technology (ie., Microsoft Kinect) (Sgrò, Nicolosi, Schembri, Pavone, & Lipoma, 2015). In this respect, this study was designed for addressing the effect of an exergaming training strategy for the improvement of several components related to the jump for height skill, as compared with a traditional physical education intervention (control group). We involved a group of children from an elementary school, and we have hypothesized the follows: H1) there were no difference between exergaming and control group at the start of this study; H2) there were differences in the performances of the exergaming group between pre- and post-test.

METHODS

Participants

This study involved twenty-four children randomly selected from the three and the fourth classes of an elementary school located in a municipality in the south of Italy. The characteristics of the children were: male n=13, female n=11; age: M= 7.17, SD=0.81; body mass: M=31.3, SD=9.07; height: M=1.26, SD=0.11; leg length: M=0.67, SD=0.05; body mass index (BMI): M=19.17, SD=3.36. Participants were randomly divided in control group (n=12, male=5, female=7) and exergaming group (n=12, male=6, female=6). Prior to group assignment, children provided an informed consent where the voluntary participation of each child to the study was subscribed with the signature of their parents. Furthermore, each child was checked for the

following inclusion criteria: previous experience in exergaming activities, involvement in regular physical education courses at school, and no injuries that making it impossible to perform exergaming or physical activities training. The children of each group performed a specific training protocol over the 10-week study period. Ethical Board of the University of Enna approved the sample, methods, and instruments proposed in this study.

Control group intervention

The children in the control group were involved in the typical physical education lessons of the primary school for two times at week. The lessons' program was not structured for improving specifically any components (eg., preparation phase, propulsion phase, take-off posture) related to vertical jump skill. The activities provided in these lessons were: low intensity warm-up program, dynamic stretching, running, and organized games as volleyball and basket. The rest period between the activities was 30 seconds. Each training session was more or less 45 minutes, and it was supported by a physical education teacher.

Exergaming group intervention

Children involved in this group performed a training protocol by means of two games of the Nintendo Wii platform: My Body Coach (MBC) and Wii Sports Resort (WSR). The training protocol was structured with the aim to improve the components related to vertical jump skill. Each training session was divided in two periods. In the first period (15 min.), the children performed a warm-up program using MBC in order to increase the heart rate, and the blood flow to the muscle of the legs. In the second period (30 min.), the children performed structured activities related to basketball using WSR game. The aim of these activities was to develop lower legs movement patterns associated with the jump for height skill. Each child performed its exergaming training protocol setting low-level of intensity for the first three weeks, the intermediate level for the next three weeks, and the high level for the last weeks in both games 'activities. The rest period between the activities was 30 seconds. Children of this group performed only the exergame training protocol for three times at week: two times during the physical education lessons and one more time in the afternoon of an other day. During the training session, a physical education teacher with expertise in exergaming interventions followed the children and provided to us support with demonstrations, explanations, and cue words if necessary.

Assessment procedures

The assessment procedures of the children performance were done in the first and in the last week of the study period. The pre- and the post-test of vertical jump developmental levels were performed in two days for group using the same procedures and approaches proposed in a previous study (Sgrò, et al., 2015) and described in the next sections. Each group come in the gym of the school were two assessors with previous experience in the FMS assessment procedure were located. Initially, the assessors acquired the aforementioned anthropometric data from each participant. Next, the participants started a low-level warm-up program for 10 minutes. Before the assessment began, one assessor showed the right execution of the countermovement vertical jump task. Each child was invited to jump as high as possible for three times, with 30-sec. of rest between each jump. For each group, the assessment order of pre- and post-test was randomized by means of a random number assigned to each child.

Qualitative assessment approach

The qualitative assessment of vertical jump skill was performed using the process-oriented procedure proposed in the Western Australian Teachers Resource (EDWA, 2013b). Each assessor observed the jumps from sagittal point of view and produced their evaluation using a Skill Observation Records grid (EDWA, 2013b) composed of the six criteria proposed in the table 1.

Table 1. Component-based criteria for vertical jump skill assessment (EDWA, 2013b).

Phase	Segment	Component-based Criteria
Preparation	Legs	1. Ankles, knees, and hip bend*
	Head and trunk	2. Head up, trunk upright
	Arms	3. Arms swing behind body*
Propulsion	Legs	4. Legs forcefully extend
	Arms	5. Arms swing forward and up in time with leg action
Landing	Legs	6. Ankles, knees, and hip bend on landing*

Note - * Initial focus skill criteria.

Each criteria is related to a vertical jump component; the criteria numbers 1, 3 and 6 are defined the initial focus skill criteria because they are considered the easiest to teach and to observe (EDWA, 2013a). For each jump, the assessors had to score whether each criteria is present or not. The jumps were also video-recorded, as well the assessors were able to observe more times a performance for providing a secure score. The relation between the scores and the developmental levels were defined using a "rule of thumb" approach (EDWA, 2013a). The levels where the children could be classified are: beginning, developing, consolidating, and generalizing. The assessment procedures used in this study concerns only the first three levels.

Quantitative assessment approach

The assessment of the jump performance was also realized using a low-cost motion capture device: the Microsoft Kinect. The movements of the children were tracked using the data acquired from infrared emitter and sensitive camera of the Kinect, and they were reconstructed by means of a C# application developed using Microsoft Kinect SDK. For each child, a skeleton model was built using the 3D coordinates of twenty joints, identified in: feet, ankles, knees, hips, hip centre, spine, shoulder center, shoulders, elbows, wrists, hands, and head (Webb & Ashley, 2012). The coordinates of each joint were sampled at 30 Hz and were used to estimate the 3D coordinates of the whole body center of mass (CoM) by means of the segmentation method (Winter, Patla, Prince, Ishac, & Gielo-Perczak, 1998). Furthermore, the CoM coordinates were filtered to reduce the noise of motion data using a fourth-order zero-lag Butterworth filter with cut-off frequency of 20 Hz (Azimi, 2012). The vertical velocity and the vertical position of the CoM were used to obtain quantitative parameters according to the assessment methodology proposed by Sgrò and colleagues (2015). The parameters estimated were: a) height of jump (HJ): estimated as the vertical displacement of the CoM from the start of the jump and the peak of the jump; b) takeoff velocity (TV): estimated as the value of the vertical velocity in the takeoff frame; c) preparation time (PreT): calculated as the time between the jump start frame and the frame where the CoM position was the lowest; d) propulsion time (ProT): calculated as the time between the end of the preparation time and the frame before the takeoff; e) flight time (FT): set as the time between the takeoff and the landing frame. Considering the well-known relation between the level of the skill components and the anthropometric characteristics of the children (Okely, Booth, & Chey, 2004), the parameters were also estimated in non-dimensional (or normalized) form according to Hof 's formulas (1996).

Statistical analysis

The reliability of qualitative analysis was addressed with inter-class correlation coefficient. Data from quantitative assessment procedure were preliminary screened for normality, univariate and multivariate outliers. Descriptive analysis was computed between all measures for pre- and post-test. An independent t-Test was done to evaluate the uniformity between groups for pre-testing scores. Considering the data of post-test, a pairwise comparison was computed to address the change within groups. Furthermore, a mixed between-within analysis of variance was calculated to compare the values of statistical difference measure between and within groupings over the training time period. The analysis was computed using SPSS for Mac version 20.0 (SPSS Inc., Chicago, IL, USA), and the significance level was set to 0.05.

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RESULTS

The 96% of inter-observer reliability was estimated using agreement percentage. The children involved in this study mastered at lest the three initial focus skill criteria, as well they were grouped into developing and consolidating developmental levels. Table 2 reported the number of children for each level in pre- and post-test.

Table 2. Distribution of children in developmental levels in pre- and post-test analysis.

Group	Pre-test		Post-test	
	Developing	Consolidating	Developing	Consolidating
Control	7	5	8	4
Exergaming	5	7	1	11

The data analysis revealed that the parameters values were normally distributed and none outliers were found. Descriptive analysis of quantitative measure in pre- and post-test was reported in table 3.

Table 3. Descriptive analysis of jump's measures for pre- and post-test (mean ± standard deviation).

Measures	Pre-test		Post-test	
	Control (n=12)	Exergaming (n=12)	Control (n=12)	Exergaming (n=12)
HF (m.)	0.21±0.08	0.16±0.11	0.23±0.08	0.19±0.08
HF_N	0.30±0.12	0.25±0.18	0.33±0.12	0.28±0.11
TV (m/s)	1.97±0.4	1.69±0.6	2.05±0.35	1.85±0.42
TV_N	0.76±0.16	0.66±0.25	0.79±0.14	0.71±0.14
PRE T (s.)	0.26±0.02	0.24±0.04	0.26±0.05	0.23±0.02
PRE T_N	1.0±0.12	0.96±0.18	0.98±0.21	0.91±0.11
PRO T (s.)	0.11±0.01	0.11±0.01	0.12±0.01	0.12±0.01
PRO T_N	0.45±0.05	0.43±0.04	0.45±0.05	0.46±0.03
FT (s.)	0.13±0.01	0.12±0.01	0.13±0.02	0.13±0.01
FT_N	0.51±0.04	0.49±0.07	0.52±0.08	0.52±0.07

Considering the pre-test data, the results of independent t-Test reported no significance differences between groupings for any measures and confirmed the uniformity between control and exergaming groups. The results of pairwise comparison between pre- and post-test reported no significant difference for any measures in control group, while in the exergaming group a significant increase was found for the propulsion time normalized ($t=-2.93$, $df=11$, $p=.01$) parameters. The mixed-analysis of variance for normalized propulsion time parameter revealed different results for within and between procedures. There was significant main effect for time within groups: Wilks'Lambda=.77, $F(1,22)=6.50$, $p=.01$, partial eta squared=.69, with the exergaming group showing a higher score across the time than the control group. The groups resulted no statistical difference: $F(1,22)=0.66$ $p=.79$, suggesting that the propulsion time normalized was not remarkably affectd by the two training strategies. The interaction between time and groups was also not significant: Wilks'Lambda=.95. $F(1,22)=1.21$, $p>.05$, partial eta squared=.17. Figure 1 showed the difference for the propulsion time normalized measure within groups between the start and the end of the training.

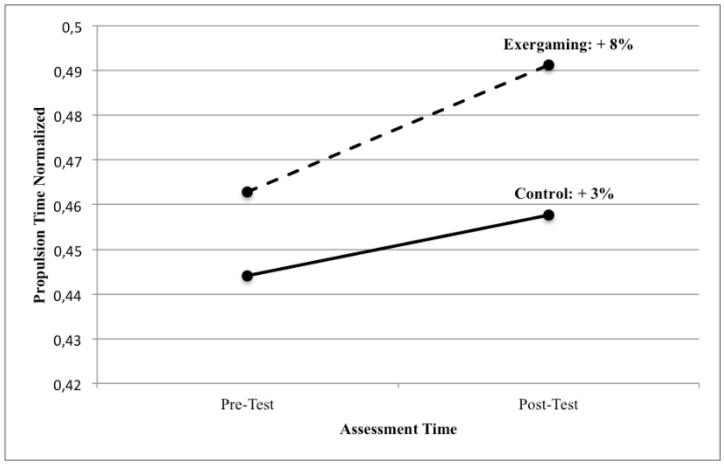

Figure 1. Percentage of improvement for the propulsion time normalized within groupings over the training period.

DISCUSSION AND CONCLUSION

In this study we have proposed the use of the exergames to support the development of a vertical jump skill in middle childhood. In this respect, we have addressed whether a physical education protocol based on exergames activities produce different effect on several components of the vertical jump skill, as compared with a standard physical education lessons. Although exergames activities provide several elements of motor learning (Yen, *et al*., 2011), few studies addressed specifically the use of exergames for supporting the development of fundamental movement skills (Vernadakis, *et al*., 2012; Sheehan and Katz, 2013; Vernadakis, *et al*., 2015). The aforementioned studies addressed the balance and the object control skills, while in this study the exergames training protocol was proposed to improve the skill 'components related to one (vertical jump) of the locomotor skills. To the best of the authors 'knowledge, an intervention based on exergames activities has never proposed for supporting the development of any locomotor skills.

The assessment of vertical jump developmental levels in pre- and post-training phase was based on the same procedures proposed by Sgrò and colleagues (2015). Likewise, we used the qualitative object-oriented approach proposed by the Western Australian Education Department (EDWA, 2013b), while the quantitative approaches was based on the output measures obtained from an exergaming device (ie., Microsoft Kinect). The typology of qualitative assessment procedure is widely used for the study of vertical jump performance in childhood (Floría & Harrison, 2013; Williams, *et al*., 2013). Furthermore, the object-oriented approach was previously used for evaluating the effect of the exergames-based intervention for the trin of the object control skills in childhood (Vernadakis, *et al*., 2015).

The participants of this study were grouped in developing and consolidating developmental levels, in agreement with previous findings about the development of normal children after the age of 6 years (Gallahue, *et al*., 2012). Considering the classification in pre- and post-test, the children in control group showed lowest performance after the training period, while the children in the exergaming group showed an improvement of their performance. The methodologies used for the objective assessment of vertical jump performance have just been proposed for the study of developmental levels in childhood (Sgrò, *et al*., 2015). According to Floría and Harrison (2013), the parameters in non-dimensional form were estimated for addressing the role of the differences in body size related to the different rate in growth during middle childhood.

The first hypothesis was corroborated with the results of the independent t-Test on the measures obtained with the quantitative approach. This finding had a critical role for addressing the effect of the two physical education interventions separately. The similarities in the groups 'characteristics could be explained considering that the children had the same age, the same physical education curriculum, and met the same inclusion criteria. Considering the performances of each group in the post-test, the exergaming group showed

better scores in each parameter than the control group. The pairwise difference analysis revealed that the objective parameters of the children in control group were not statistically different after the physical education lessons, while the propulsion time normalized was statistically different after the exergaming interventions. The mixed between-within analysis of variance for repeated measure confirmed the propulsion time normalized has changed with the training, but only the exergaming groups showed significantly and substantiality improved of this parameter (see figure 1). Of note, these results were useful to partially support our H2, and they were in agreement with previous researches related to the study of jump performance in children. The "timing" was defined as a critical element in order to ensure that the jump is efficient and performed explosively (Williams, *et al*., 2013). Furthermore, Floría and Harrison (2013) showed that there is a relation between the concentric performance of the propulsion phase, a specific training for the legs (as the proposed exergames interventions), and the improvement of the jump performance in childhood. The same relation has been verified for the athletes (Cormie, McBride, & McCaulley, 2009).

The results of our study are quite different from the ones obtained in other studies where the exergames was proposed for improving the FMS in childhood (Vernadakis, *et al*., 2012; Sheehan and Katz, 2013; Vernadakis, *et al*., 2015). These differences may be explained considering the different frequency of the interventions (ie., three versus six times per week) (Sheehan and Katz, 2013), the higher complexity of the jump skill compared with the balance skill (Vernadakis, *et al*., 2012), and the different approach used for the assessment of the exergames intervention effect (Vernadakis, *et al*., 2015). Several limitations affect the generalizability of our results. First, the school environment cannot be considered as clinical because the conditions (ie., noise, lightness, temperature) changed regularly. Considering that the games used for the exergames interventions are only two, the second limit could be identified as a case-specificity problem. The characteristics of the sample could be the third limit. In this respect, the following changes will be planned in future works. A bigger sample size with large differences in age and gender are needed with the aim to address also the beginning developmental levels, and the effect of the gender, as proposed in the previous study (Sheehan and Katz, 2013). Furthermore, new kinematics parameters have to be studied in order to better address the change of jump patterns related to the training. Different exergames shall be suggested in the interventions considering the latest developed games.

In conclusion, the result of this study confirmed that the exergames could be considered as promising tools for supporting the activities of physical education teacher (Enis, 2013) and, overall, for increasing the physical activity level of the children. The teachers shall use the exergames for improving the engagement of the children in physical education lesson with funny and motivating activities. The games chose for the proposed training strategy may be considered adequate, inexpensive, and joinable tools for the development of the jump for height skill. The exergames devices (e.g., the Microsoft Kinect or the Wii Balance Board) may be also used for assessing the FMS development. The authors believe this study expand the dissemination of the exergames as potential tools for the physical education curriculum. Furthermore, this study has to be considered as the first step in order to fill the lack about the use of the exergames for locomotor skills training within the physical education curriculum for middle childhood.

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Cognitive Maps Of Individuals With Blindness For Familiar Spaces: Construction Through Tactile Maps And Direct Experience

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ABSTRACT
The aim of the present study was to examine the ability of individuals with blindness to create cognitive maps of routes in familiar city areas through the use of two different means: tactile maps and independent movement (direct experience). Moreover, this study aims to compare the cognitive maps created with the use of these two means in regard to their accuracy and completeness. Twenty-four adults with blindness (16 males and 8 females) took part in the research. Their age ranged from 20 years to 61 years. The subjects participated in two experiments. During the first experiment the subjects walked in a familiar route and then they were asked to depict their cognitive map as a haptic model created by using a range of different materials. In the second experiment the subjects read a tactile map and then they were asked to depict cognitive map. The findings of the present study reflect the effect of tactile maps on the cognitive maps creation and contribute to the understanding of issues that concern the development of cognitive maps by individuals with blindness through the use of tactile maps and through the independent movement.

INTRODUCTION
Individuals with blindness are facing significant difficulties during their orientation and mobility in space. The majority of the researchers that examined spatial performance of individuals with visual impairments and sighted individuals came to the conclusion that visual experience influences decisively spatial behavior (Papadopoulos & Koustriava, 2011; Papadopoulos, Koustriava, & Kartasidou, 2011; Papadopoulos, Barouti, & Charitakis, 2014). Moreover, blindness has a negative impact on the development of blind people's spatial skills (Koustriava & Papadopoulos, 2010; Koustriava & Papadopoulos, 2012; Papadopoulos, Barouti, & Charitakis, 2014).

Maps constitute a significant orientation and mobility aid supporting the absolute and relative localization of streets and buildings as well as the estimation of directions and distances between two points (Brock, Truillet, Oriola, Picard, & Jouffrais, 2012). Supporting the relative localization of objects, maps lead to the acquisition of survey knowledge; a knowledge than can be obtained more quickly and with less effort than direct experience either from sighted individuals (Thorndyke & Hayes-Roth, 1982) or from individuals with visual impairments (Caddeo, Fornara, Nenci, & Piroddi, 2006). Especially in the case of individuals with visual impairments, maps contribute to the handling of daily living problems inducing autonomy, independence and a better quality of life (Espinosa, Ungar, Ochaita, Blades, & Spencer, 1998; Jacobson, 1998).

It is impossible for people with blindness to collect the external visual stimuli from the environment or to use conventional maps. Therefore, the provision of spatial information through tactile aids is important (Papadopoulos 2004; Papadopoulos & Karanikolas, 2009). The usefulness of tactile maps for spatial knowledge by individuals who are blind has been demonstrated in several studies (Ungar, Blades, & Spencer, 1993; Espinosa & Ochaita 1998). The view provided from a tactile map can replace to some extent, the visual view of the environment (Golledge 1991).

Researchers have pointed out that raised-line graphics of the spatial environment prepare individuals with visual impairment to travel an unfamiliar space more safely and efficiently than work with a verbal description or a sighted guide (Espinosa, Ungar, Ochaita, Blades, & Spencer, 1998), demanding a smaller cognitive load than direct experience (Thinus-Blanc & Gaunet, 1997).

Cognitive mapping refers to the process during which an individual acquires, stores, recalls, and decodes information about the relative locations and attributes of the phenomena in his/her environment (Downs &

Stea, 1973). Cognitive map is in effect a mental representation of spatial knowledge (Kitchin, 1994). While cognitive mapping of spaces is a prerequisite to develop adequate Orientation and Mobility skills (Lahav & Mioduser, 2008), most of the information required for cognitive mapping is gathered through the visual channel (Loomis, Klatzky, Golledge, Cicinelli, Pellegrino, & Fry, 1993). As a result in the case of visual impairment the greater piece of spatial information is missing and the cognitive mapping becomes a very difficult process. Gathering information through compensatory sensorial channels is considered a fundamental way to deal with cognitive mapping (Lahav & Mioduser, 2008). Cognitive maps of individuals with visual impairments appear to contain basic environmental features as streets, buildings, parks, fixed obstacles, bus stops etc. (Papadopoulos, 2004) and show that they understand spatial relationships between places when presented on a tactile map (Jacobson & Kitchin, 1995).

Kitchin and Jacobson (1997), and Jacobson and Kitchin (1995) review the techniques used to assess cognitive maps of individuals with visual impairments. A widely used technique to examine configurational knowledge is the reconstruction tasks where the participants are asked to build a model. In the present study, the reconstruction technique used to examine the cognitive maps of individuals with visual impairments.

STUDY

The aim of the present study was to examine the ability of individuals with blindness to create cognitive maps of routes in familiar areas through the use of tactile maps and through participants' direct experience of movement along the routes. The degree of precision of the created cognitive maps was also under investigation. Moreover, the study aimed at comparing the cognitive maps created through the use of tactile maps and the independent movement along the routes with regard to their precision/ accuracy and inclusiveness/ completeness.

Participants

An essential criterion to include a participant in the study was not to have a hearing impairment or other disabilities, apart from visual impairments. Twenty four adults with blindness took part in the research. The sample consisted of 16 males and 8 females. The age ranged from 20 years to 61 years (M = 35.0, SD = 11.76). Nineteen participants were blind or had severe visual impairments and 5 had the ability to detect very large objects. The visual impairment was congenital for 16 participants and acquired for the rest 8 participants.

The participants were asked to state the way of their daily move in outdoor places, by choosing one of the following: a) with the assistance of a sighted guide, b) sometimes myself and sometimes with the assistance of a sighted guide, and c) myself, without any assistance. Moreover, the participants were asked to indicate the frequency of their independent movement using a 5-point likert scale: always, usually, sometimes, seldom, or never. In addition, these two questions were answered from orientation & mobility (O&M) specialists, who were familiar with the participants and could assess the latter's ability of independent movement. Table 1 present the answers of the participants and O&M specialists.

Table 1

Ability and frequency of independent movement according to the answers of participants and O&M specialists - the score represent the number of participants in each group

	With or without sighted guide			Frequency of independent movement			
	with	with & without	without	seldom	sometimes	usually	always
Participants	2	9	13	0	2	17	5
Specialists	4	3	17	3	4	11	6

Instruments

The main research instruments were tactile maps of a familiar area in Thessaloniki. The area is extended around the special school for individuals with blindness in Thessaloniki, which means that the chosen familiar area was a well known place for the vast majority of people with blindness in Thessaloniki. All the participants presented experience of frequent movement in this area.

Three tactile maps were created to represent three different routes (itineraries). This design ensures the variance of the difficulty degree between the routes, while in the same time it eradicates the factor of learning

effect that could possibly affect participants' performance (see section Procedures). The choice of the routes was based on the following criteria: a) they had approximately the same length b) they all had the same number of turnings c) they had different shape and d) they were suitable for/accessible to people with visual impairments. In order to achieve the accessibility objective, researchers walked around the areas and examined whether they are accessible to blind people. The main concern was to avoid obstacles which would prevent blind people from passing through. These routes were considered suitable to be selected.

Researchers visited each route, recorded the spatial information (as far as absolute location and kind of information are concerned) and selected 30 of them to be mapped out. The number (30) was not random. The researchers calculated the mean number of the spatial information that the participants had identified during the first experiment – the independent movement within the familiar area. The choice of spatial information was made in a way that the existence of spatial information on every street of the route was assured. Moreover, the researchers carefully recorded all the tactile, audio and olfactory information with regard to their kind. So, an attempt was made in order to exclude the possibility of error in case of a specific type of spatial information is stored more easily or more difficultly on the cognitive map of individuals with blindness.

Adobe Illustrator CS6 was used for the creation of digital tactile maps. These maps were then printed in microcapsule paper, and consequently 3 tactile maps were developed. On each tactile map dots were placed at the locations of spatial information (e.g. trees, pillars, stores).

In the phase where their cognitive map was depicted, a range of different materials were used by the participants. The materials included a kappa fix carton on which an A3 sheet was fastened. Moreover, a string was placed in the position of roads, thumbtacks to fasten the laces and twist them when there were turnings were used, and different type of thumbtacks were placed in the position of obstacles.

Procedures

The subjects participated in two experiments: the independent movement within the familiar area (first experiment) and the use of a tactile map into the familiar area (second experiment). The sequence of the experiments was not the same for every participant in the purpose of eliminating a possible learning effect.

Moreover, a circular design of experiments' implementation was applied with reference to routes. For instance, the first participant walked down the first route during the first experiment, while he/she used the tactile map of the second route during the second experiment. In the same way, the second participant walked down the second route during the first experiment, and he/she used the tactile map of the third route during the second experiment, and so on. This design was applied in order to avoid any error resulting either from differences in the areas' degree of difficulty or from previous learning of the area structure.

Participants had been asked to point out verbally all the spatial information they would detect during the first experiment. The information detected was noted using a recorder. The mean number of information pieces was used to define the quantity of spatial information used on tactile maps.

In the first experiment, the participants moved along a route and afterwards they depicted the cognitive map resulted from their movement. Initially, the participants were informed about the procedure of the experiment and the haptic model they should create at the end. Next, the participants moved along the route independently using their white cane. Each time the researcher moved with the participant maintaining a short following distance from him/her and guiding him/her using verbal instructions (e.g. "in this point you should turn right"). In case of emergency where a participant could set him-/herself in danger, the researcher asked him/her to stop (uttering "stop"). When the participant had finished walking down the route, he/she and the researcher where moved in a quiet place in order to proceed with the next phase of the experiment – the representation of the participant's cognitive map by creating a haptic model of the route previously walked. The elapsed time from the completion of the route walking until the beginning of haptic-model-creation phase was 5 minutes on average.

In the second experiment the examination consisted of reading the tactile map and then the participants depicted their cognitive map. The examination procedure was carried out individually in a quiet room. Initially, participants were informed about the procedure of the experiment and the haptic model they should create at the end and then each participant read via touch the tactile map. The maximum time that was offered for the map reading was 15 minutes, in which participants had to learn the route, street names and 30 pieces of spatial information. However, they could stop reading earlier if they wished to. A five- minute pause followed. Then the participants used the materials given by the researcher to create their cognitive map.

At the end of each experiment, the participants created a haptic model representing their cognitive map. There was no time limit for the creation of the haptic model. Each time a participant touched an item on the haptic model, the researchers pointed out what this item stood for so that he/she could make a review.

After the completion of the haptic model, the researchers were drawing the cognitive maps, by drafting the outline of the materials of the haptic model on the A3 sheet. The recording of the data on the cognitive maps and their analysis followed.

During the processing of the cognitive maps (haptic models), the following variables were recorded and calculated by the researchers as to their accuracy: the number of the streets, the names and length of the streets, the number and direction of turnings and the number of spatial information participants placed on the haptic model. Specifically, with respect to streets, variables that were examined included how many streets participants placed properly and how many wrong (placed wrong, placed in abundance or were missed). It was also measured how many names of streets were indentified right and how many wrong (indentified wrong, placed in abundance or were missed). Regarding the road turns, two variables were measured. One for the number of turns placed correctly and one for the number of turns that were placed wrong (placed wrong, placed additionally or forgotten).

Regarding the amount of spatial information, the variable “correct information” was calculated. This variable concerns the pieces of spatial information that result from the total spatial information used by a participant on his/her cognitive map, having firstly reducing the pieces of “wrong information”.

Regarding the street length the average error of the length of the roads placed in the haptic model was measured. To make this measurement, the following procedure was followed for each participant: 1) the actual map of the area was printed, 2) a change of scale of the cognitive map in the scale of the actual map was implemented, 3) for each road the participant placed, the error length was measured; this is the divergence between the length of the actual and the length of the cognitive road (after scaling), and 4) the average error length for all the roads included in the cognitive map was calculated.

RESULTS

Initially, the scores of the following 8 variables were calculated: “number of streets-correct,” “number of streets-wrong”, “streets names-correct”, “streets names-wrong”, “turnings-correct”, “turnings-wrong”, “information-correct”, and “streets length- error”. The mean and standard deviation (SD) of scores are presented in Table 2. Each correct or wrong answer was scored 1. Concerning the number of streets and streets names, if any participant had placed all the streets and streets names correctly, his/her score would be equal to 8. Regarding the turnings if any participant had placed all the turnings correctly, his/her score would be equal to 7.

Table 2
Mean (M) and standard deviation (SD), of correct and wrong answers regarding the number of streets, streets names, turnings, and spatial information

	Independent Movement		Tactile map	
	M	SD	M	SD
number of streets-correct	7.46	1.02	7.21	1.25
number of streets-wrong	.54	1.02	.83	1.31
streets names-correct	4.29	3.24	5.96	2.77
streets names-wrong	3.71	3.24	2.08	2.87
turnings-correct	6.46	1.02	6.25	1.29
turnings-wrong	.63	1.10	.88	1.39
information-correct	8.75	5.85	5.17	6.70
streets length-error	3.30	1.92	2.20	.91

Furthermore, repeated-measures ANOVAs were conducted to examine the differences between the cognitive maps created after the independent movement and the cognitive maps created after reading the tactile map (independent movement vs. tactile map). Repeated-measures ANOVAs were conducted for the 8 variables presented on the Table 2 (number of streets-correct, number of streets-wrong, streets names-correct, streets names-wrong, turnings-correct, turnings-wrong, information-correct, and streets length- error).

The implementation of repeated-measures ANOVAs revealed no significant differences for the variables: number of streets-correct, number of streets-wrong, turnings-correct, turnings-wrong, and streets length-error. Moreover, the implementation of the Repeated-measures ANOVAs indicated that the participants gave significantly fewer correct responses and made more mistakes after having walked down the route than having firstly read the tactile map, with reference to the following variables: streets names-correct [F (1, 23) = 5.022, $p < .05$], streets names-wrong [F (1, 23) = 4.708, $p < .05$]. On the other hand, participants gave fewer correct responses [F (1, 23) = 6.262, $p < .05$] after having read the tactile map rather than having walked down the route, with reference to the variable "information-correct".

CONCLUSIONS

The findings of the present study reflect the positive effect of tactile maps on the cognitive maps creation, and thus, their effect on the spatial knowledge of people with blindness. Previous studies (Espinosa & Ochaita 1998) have also revealed the contribution of tactile maps in spatial knowledge of individuals with blindness. Espinosa & Ochaita (1998) used three instructional methods – direct experience, cartographic representation and verbal description - and estimated their effect on the spatial knowledge of blind adults. The examination consists of a large, complex route where 8 landmarks were included. According to the results, a better practical spatial knowledge gained from participants when they used a tactile map for the route knowledge and not of the two other conditions.

In the present study, more than half of the participants appeared cognitive maps in precision, while the rest participants performed well at all the variables which were examined. Moreover, when the participants used

the tactile map, 12 (50%) participants hadn't made any mistakes in streets names. On the contrary when the participants walked independently on the routes, 8 (25%) participants hadn't made any mistakes in streets names.

Correct spatial information is the only case in which the advantage of independent movement in relation to the reading of at tactile map is evident. This can be explained as the participants are likely to recall information related to the area that are familiar with –apart from the 30 items that are included in the tactile map - and incorporate them into their cognitive map. Whereas in the case of the experiment using the tactile map, the participants were required to store information such as the position and the type of those 30 particular items in the cognitive map. Therefore the information that probably existed in the cognitive map because the area was familiar, were not to be included in the cognitive map, thus they were not added to the total number of spatial information. This consists of a possible limitation of the present study.

The findings revealed the tactile map as an alternative means of knowledge of a city route. This is extremely important because there are cases where the independent movement in a route could not be performed, it may present difficulties or it is inadequate as a means of special knowledge (Bentzen, 1980).

The findings of the present study contribute to the understanding of issues that concern the development of cognitive maps in individuals with blindness through the use of tactile maps and through direct experience of movement along the route. Thus, the results of the study have implications for both educators and orientation & mobility specialists.

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Concept Teaching To Mentally Retarded Students Through Mobile Devices

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ABSTRACT
In the process of design, refinement and selection of the software required for mentally retarded students' education, the characteristics of students should be taken into consideration. Mobile application software can be used as a supplementary material in the education of students who need special education. Many studies reveal that computer assisted programs increase the motivation and concentration time of mentally retarded students and they enjoy studying with mobile devices (Tablets, Smartphones).
Apart from ordinary students, mentally retarded students should also be provided with opportunities of technology in their education after developing technology gets into every aspect of the life and is also used in education. In this study, concept teaching based on animation and simulation is intended by making use of technology in the education of mentally retarded students. This process makes a valuable contribution to students in terms of concept learning at schools and rehabilitation centers which facilitate for learning by technology assisted visual programs.
This study was conducted with 40 students at four schools of mentally retarded and rehabilitation centers inning Sakarya. The evaluation of the data obtained from the application, students who have been learning the concepts of mobile learning tools revealed that they are more successful than those who had learned classical learning methods. According to these results, it can be said that mobile devices make a contribution to concept learning of mentally retarded students.

Keywords: Mentally retarded students, concept teaching and technology.

INTRODUCTION
Reintegrating disabled people into social life within the scope of social rule of law is accepted by all modern countries. In this regard, Information technologies assisted education which facilitates the development of mentally retarded individuals, helps them to get a better place in society and make them more social should be assisted by information technologies (Yıldız, 2010).

Intelligence is the result of the combination of many abilities that work in a harmony and include the functions of the mind as perception, thinking, reasoning and learning. Mental disability which results from the slow development of intellectual abilities is a state with extremely complex properties (Bilir 1986, Yörükoğlu 1998, Eripek 2002).

A Mentally retarded individuals associated with significant retardation than normal in general mental functions in the process of development and also shows inability in adaptive behaviors (Özsoy, Özyürek, Eripek,1988).

With the increasing use of information and communication technology, educators state that global education is inevitable and global education practices must be initiated. These rapid developments in communication technology affect the form and structure of the education and force educators to find new education programs and to develop new teaching-learning models (İşman, 2005). İşman states that with the active use of technology, countries make radical changes in their education systems by developing different methods in education and training.

Learning is basically a mental process. Mentally retarded individuals are expected to be less successful than others due to retardation in mental functions and showing maladaptive behaviors. Learning ability of the mentally retarded individuals is the most significant feature that distinguishes them from healthy individuals.

Individuals in need of special education are the kind of individuals that need a more special education in normal education process because of their cognitive, affective, sensory, communicative and physical features. Different educational efforts are needed for the education of these individuals. The requirements for the education of individuals with special needs are designing special curriculum, using special materials, getting

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help from special education specialist, making special physical arrangements in places etc. (Güven, 2003). With developing technology, education systems and teaching methods are changing. The technology used as active in every aspect of education begins to be integrated into their education. It gives a chance to consolidate what they learn in order to ensure the permanence as well as learning a lot of things in a limited time.

In studies on special education, different teaching methods were developed, but technological studies have been began to be used in these methods for last years. In fact, mentally retarded individuals are member of the developing and changing time as well as other people and they are also curious about devices such as computers, mobile phones and tablets. By using their curiosity, information technologies make a huge contribution to educators in teaching of the concepts they use in daily life. A number of factors which are difficult to achieve with classical training are easy to put into practice through information technology. "Also, the studies that include the comparison of education through traditional education programs and computer assisted teaching programs show that computer assisted teaching has positive effects on the learning of mentally retarded children (Pişkin, 1995; Heimann et al, 1995; Moore, McGrath and Thorpe, 2000; Bosseler and Massaro, 2003; Hetzroni and Tanous, 2004; Özdener and Erkoç, 2006)."

Studies reveal that computer assisted teaching increases the motivation of disabled children, gets them to concentrate better and that disabled children love studying through computer (Bayram, 2008, p.3).

In order to teach concept to the mentally retarded, computer can be used efficiently. A study with ten autistic children ranging from 5 to 8 years old indicates that the success of the subjects who study with computer are higher than the success of the subjects who do not use computer while studying (Pişkin, 1995).

Features which use different sounds and perceptible moves of the objects make a significant contribution to mentally retarded children's learning (Moore & Calvert, 2004).

THE AIM OF THE STUDY

In mentally retarded children's education, animation and simulation based concept teaching is aimed in this study by making use of mobile devices. By using the program which is developed at the end of this study, the aim in the education of mentally retarded students through technological opportunities as visual and aural;

- reintegrating these individuals into society
- to raise awareness in the society
- providing the concepts that are a first step in their development through today's technology
- get them to use the technology
- not only in rehabilitation centers but also at any given time

THE UNIVERSE OF THE STUDY

The mentally retarded students in special education and rehabilitation centers in Sakarya constitute the universe of this study. These students are taught concepts through mobile education program.

Process of Illustration

The application of this research occurs in three different sequences. In the first phase, students' level of readiness is determined by applying pre-test. Thus, it is found out with which concept the training has to begin. The second phase is the education part. At this stage, the subject of the concept which is aimed is taught and with implementing a test, the comprehension of the subject is determined at the same time. At the final stage, by giving the final test it is checked whether the taught concept is permanent comprehended permanently or not.

LIMITATIONS

The limitations of the program which is developed for mobile phones can be summarized as follows:

- Socio-economic status of each student may not be convenient to buy tablet.
- Mentally retardation schools and rehabilitation centers may not prefer the use of tablets because of extra charges and prefer instead of this model the classical education model
- The attitudes of teachers towards the use of technology could be restrictive.

RESEARCH MODEL

As a research model, pre-test and post-test were used for experimental and control group models. At the end of the implementation, results of the post-test from the experimental and control groups were analyzed by using Paired samples t-Test.

DATA COLLECTION

The data used in this research, were obtained from results of mobile devices software application which was developed for students. The study is applied to twenty-one students at four different schools which are in the province of Sakarya. The aim of this work is to teach concepts with tablet computers to students with mental disabilities by using this education model.

DEVELOPED PROGRAMS FOR MOBILE DEVICES

The parts of the program which are used in teaching students with mental disabilities concepts are listed below.

MAIN MENU

Figure 1 shows the home page screen of the program. On this screen, it is shown how sections take place into the other areas of the program.



Figure-1 Home-page

The usage of menus and submenus will be explained in the order of appearance.

REGISTRATION

As seen in Figure -2, this screen contains the data such as name, surname, age, gender, language, level, sound, reinforcement and the photo of the student who will use this program. Once the personal information of the student is saved on the data base, the student just launches the program and work according to the previous given data.



Figure-2 Registration

APPLICATION SELECTION

With selecting a specified application, which are displayed on the selection screen in Figure 3 routing occurs. This is a sub-menu of the program.



Figure-3 Application selection

Pre-Test Screen

This page is developed to measure student's readiness towards the selected concepts.



Figure-4 Pre-Test Screen

In the Figure 4, he question "Which is the doctor?" is voiced. When the student clicks on the right picture, positive reinforcement comes randomly on the screen. The reinforcement that appears with a motion picture is also voiced and appeal to the student with his/her name in voiced way.

This kind of study will motivate the students to increase and intensify their interest when they know the right answer.

REINFORCEMENTS

Random reinforcements appear in motion picture (GIF) if the student answers the question correctly.



Figure-5- Reinforcements

EDUCATION

By identifying the missing issues after applying the pre-test to the students, it can be passed to the education phase. First, the student chooses concept Figure-1 then moves on to Figure-3. On that screen, the training can be chosen and Figure-6 emerges in order to give training. On the concept training page, the theme varies according to the gender of the student. By clicking at the concept on the education page, it grows in the middle of the screen and repeats the concept three times voiced. Also, by adjusting the settings, it is possible to set the written version on the screen beside the sound.

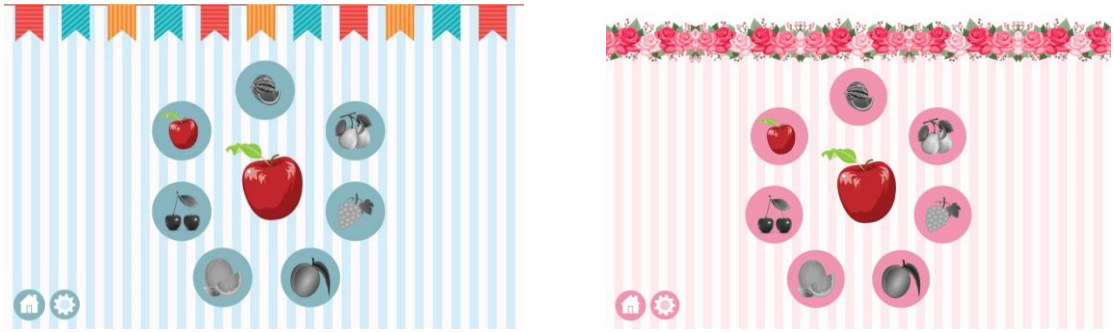

Figure-6 Teaching Concepts

DATA ANALYSIS

The data are gathered from the research which is applied to four students from four diverse groups which learnability level is equal. They are located in the province of Sakarya and town of Hendek. Before starting to teach concepts through the developed program, the results of the pre-test are displayed on the table below by averaging the known concept with 1 and the unknown concept with 0. After giving training, the while-test results are gained with the same method. After two months since the training program, the results are gathered with the same technique which is mentioned above. The relation between the pre-test and the while-test is tested by using Paired Samples t-Test Method to determine the mean. Again, to test the durability of taught concepts, the relation between pre-test and post-test is tested with the same method and shown at the table below. The names of the schools and names of student from where the data were obtained are kept confidential.

First Group Data
Rehabilitation Centers: A
Students Name: X

Table-1

Vehicles	**Pre-Test**	**While-Test**	**Post-Test**
Apple	**1**	**1**	**1**
Pears	**0**	**1**	**0**
Orange	**1**	**1**	**1**
Lemon	**0**	**1**	**1**
Banana	**0**	**1**	**1**
Grapes	**0**	**1**	**1**

By looking at data of the pre-test results (Table-1), it can be deduced that the students of these groups do not know many of the concepts. After training students with the developed program for mobile devices and applying while-test, it is observed that they learned most of the concepts. Again after a certain period with implementing the post-test, it is scrutinized that students learned and comprehended the taught concepts permanently.

Table-2

EVALUATION	**N**	**Ẍ**	**S**	**Sd**	**t**	**p**
PRETEST	20	0,33	0,516	5	-3,12	0,025
WHILETEST	20	1,00	000			

The data of pre-test and post-test at Table-1 are measured through SPSS (Statistical Package for Social Sciences) program and Paired Samples t-test and the results are displayed at Table-2. As a result that value t is – 1.12, a significant change was observed between the pre-test and the post-test and this means that the program for teaching concepts has a great influence. Because the value of P is 0,025<.05, it is observed that this program has a significant contribution to students learning of concepts.

Table-3

EVALUATION	N	Ẍ	S	Sd	t	p
PRETEST	20	0,33	0,516	5	-1,12	0,045
POSTTEST	20	0,83	0,408			

The pre-test and post-test data in table-1 is obtained through Paired Samples t-Test via SPSS. Due to the t value of the table emanated negative, a significant change has been observed between the pretest and posttest data, and the program is seen as concept persistent. It has been observed that students made significant contribution on the persistency of the concepts since the P value is (0,046<.05).

Second group data
Rehabilitation Center: B
Student Name: Y

Table-4

Vehicles	Pre-Test	Mid-Test	Post-Test
Apple	**1**	**1**	**1**
Pear	**0**	**1**	**1**
Orange	**0**	**1**	**1**
Lemon	**0**	**1**	**1**
Banana	**0**	**1**	**0**
Grape	**0**	**1**	**0**

By taking the data in table 4 into consideration, in pretest results, most of the students in this group did not know most of the concepts and compared to X group, they knew less concepts, and in the mid-test they took after getting exercised through the program used in mobile devices, it has been observed that they learned the concepts, moreover, in the posttest which was conducted after a while, it has been observed that they learned what was taught and their learning became persistent.

Table-5

Measurement	N	Ẍ	S	Sd	t	p
Pretest	10	0,15	0,308	5	-5	0,037
Midtest	10	1	000			

By applying Paired Samples t-Test of SPSS software to the data of group Y students' pre and mid-test data in table-4, the results in table-5 are obtained. Because of the t value is resulted as negative, a significant change has been observed between the pretest and posttest data, and the program has a meaningful contribution to concept teaching. The P value, 0,037<.05) shows that the program made a significant contribution to students in learning concepts

Table-6

Measurement	N	Ẍ	S	Sd	t	p
Pretest	10	0,19	0,422	5	-3,162	0,027
Midtest	10	0,83	0,423			

By applying Paired Samples t-Test of SPSS software to the data of group Y students' pre and mid-test data in table-4, the results in table-6 are obtained. Because of the t value is negative, a significant change has been observed between the pretest and posttest data, and the program is seen concept persistent. The P value, 0,027<.05) shows that the program made a significant contribution on the persistency of the concepts.

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Third Group Data
Rehabilitation Center: C
Student Name: Z

Table-7

Vehicles	Pre-Test	Mid-Test	Post-Test
Apple	**0**	**1**	**1**
Pear	**0**	**1**	**1**
Orange	**0**	**0**	**0**
Lemon	**0**	**1**	**1**
Banana	**0**	**1**	**1**
Grape	**0**	**1**	**0**

By looking the data Table-7, it has been observed that, in pretest results, none of the students in this group knew any of the concepts and after taking courses via the program developed for mobile devices, they learned the concepts and the posttest done after a particular time proved that they learned most of the concepts and the concepts became persistent.

Table-8

Measurement	N	Ẍ	S	Sd	t	p
Pretest	10	0,00	0,000	5	-1,12	0,015
Midtest	10	0,67	0,516			

By applying Paired Samples t-Test of SPSS software to the data of group Z students' pre and mid-test data in table-7, the data in table-8 is obtained. Because of the t value is resulted as negative, a significant change has been observed between the pretest and posttest data, and the program has a meaningful contribution to concept teaching. The P value, 0,015<.05) shows that the program made a significant contribution on concept learning of the students.

Table-9

Measurement	N	Ẍ	S	Sd	t	p
Pretest	10	0,00	0,000	5	-2,236	0,096
Posttest	10	0,50	0,448			

By applying Paired Samples t-Test of SPSS software to the data of group Z students' pre and mid-test data in table-7, the data in table-9 is obtained. Because of the t value is resulted as negative a significant change has been observed between the pretest and posttest data, and the program is seen as concept persistent. The P value, 0,015<.05) shows that the program made an almost significant contribution on persistency of concepts.

RESULTS

Nowadays, computer assisted education has become widespread and lessons are given in interactive environments. Mobile education systems can be used to assess the success of the individuals in or out of the educational institutions. Main objective is that individuals continue their education without time and location.. While starting this project, our objective was to learn the benefits of mobile education to educable mentally challenged individuals.

At the end of the concept teaching based on animation and simulation via mobile devices project, according to the survey results and feedbacks from educators, it is understood that when concept teaching is carried out by using the materials featuring visual, audial and kinesthetic characteristics, this makes a significant contribution on students' learning concepts and knowledge of the concepts becoming persistent.

When the findings of the study are taken into consideration, the softwares prepared and applied by taking the features and learning styles of autistic kids into account increase the academic success.

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SUGGESTIONS

The studies show that computers ensure the active participation of the students with special needs to education, increase their motivation, help them keeping themselves focused for longer time and provide more practice chance for what they learn.

Special educations departments and computer and educational technologies departments can work collaboratively on developing educational softwares covering all concepts (fruits, vegetables, vehicles, colors, numbers, shapes and etc.) for autistic students.

The softwares being developed targeting the mentally challenged kids can be developed covering the matching activities (find the same, find the different and etc.).

The studies show that computers have an important role in kids with special needs, especially mentally challenged individuals' education, as supportive materials. The softwares developed focus on just one need (like concept teaching) of an autistic individual. When these softwares are used as supportive material, they present more effective results.

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Congruence In Phrasing Between Music And Rhythmic Gymnastics Routine As Perceived By Musicians And Dancers

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ABSTRACT
Phrasing is an important aspect in both music and choreography, not only for dancing but also in many sports routines such as rhythmic gymnastics, martial arts, synchronized swimming and figure skating. The understanding of phrasing between music and movement provides a clear and meaningful structure to the entire routine. This study aims to look into whether perception of the congruence of phrasing varies if respondents are trained in different disciplines. Fifty-one musicians and fifty-one dancers participated in this experiment and were asked to choose between two videos. One video was taken from an original rhythmic gymnastics routine and the other was modified to enhance the musical phrasing to synchronize with the movement of the gymnast. The result shows that the enhanced video was chosen by the majority of both musicians and dancers regardless of their training. This indicates that the congruence of phrasing between music and movement was identified by both groups of respondents.

INTRODUCTION
Phrasing is one of the important elements in contributing to the structure and direction in music, dance, or movement-related activities such as sports routines. Parallels between music and dance have been explained (Hodgins 1992) in which phrasing in both subjects contributes to the structural content as categorized in one of the intrinsic relationships defined by Hodgins, along with the rhythmic, dynamic, textural, qualitative and mimetic. Structure in dance relates to the corresponding motives or figures and phrasing. It was stated that 'structural correspondences are created when musical structures, motives and phrasing match the morphodynamic architecture of the choreography' (Mason 2012). Without appropriate interpretations between music and dance or movement-related routines, the perceptions of phrasing between these two subjects could contradict or contribute to a different meaning when the two subjects are combined. This study reports a preliminary study on the perception of phrasing in a rhythmic gymnastics routine, using ribbon as the apparatus, by two groups of respondents who were trained in different disciplines - music and dance. The research aimed to investigate if a more congruent phrasing between music and movement could be similarly identified by both groups of respondents. The result was taken from a project analyzing congruence between music and sports routines from a range of different aspects.

PERCEPTION OF PHRASING IN MUSIC AND MOVEMENT
Before looking into dance or any choreographed routine, analysis of phrasing of the movement amongst instrumentalists was conducted long ago to look at how musical phrasing affects the movement in musicians. It was found that increased movement by an instrumentalist is synchronized with increased rates of phrasing, dynamics and rubato (Juchniewicz, 2008:424). It was also revealed that the movement of the performer relates to the rhythmical structure of the phrases in a piece of music (Wanderly et al., 2005). In the same research, it was found that performers' movements were noticeable at the beginning and ends of phrases.

In the context of choreomusical analysis, Hodgins (1992:39) parallels music and movement under the structural category in intrinsic relationship. Intrinsic relationship was defined as 'emanate[ing] from the realms of musical and kinesthetic gesture […] their interpretation largely unprejudiced by context' (Hodgins, 1992:39). Phrase/period was listed as part of the structural content in Hodgins's choreomusical theory along with 'motive/figure' and 'larger structures'. Synchronizations between dance/movement and music were investigated in many researches and these proved that the congruence between music and movement can be perceived in different conditions (Krumhansl and Schenck, 1997; Mitchel and Gallaher, 2001). Similarly to dance, sports routines such as taichi, figure skating and rhythmic gymnastics equally involve music and choreography. Phrasing between the two was examined qualitatively (Loo and Loo, 2013a), analyzing the

perception of musical phrasing employed in a tai chi routine from a musical and dance perspective. The relationship between musical details and the philosophy of tai chi movements was also examined (Loo and Loo, 2012; Loo and Loo, 2013b; Loo and Loo 2013c). In a more quantitative approach, the perception of phrasing was also analyzed in order to examine whether an intended congruence of phrasing could be identified by respondents (Loo et al., 2013d). It reveals that the video of a routine with enhance synchronization between music and movement was rated significantly to have a better phrasing. However, these perceptions were based very much on a musical perspective since all respondents came from a musical background. A preliminary study on respondents with a background in dance was also investigated through a rhythmic gymnastics routine (Loo and Loo, 2014). Although the majority of the respondents generally rated the video with an intended congruence between music and movement contributed more to the overall performance of the routine, the results were not compared to other respondents with different backgrounds.

METHODS

Video for comparison

A rhythmic gymnastics routine (using ribbon) performed by a trained gymnast was recorded for this study. Using the same video recording, the music was changed with a new composition which was intended to provide a better congruence in terms of phrasing, accents, tempo, rhythm and so forth. The same routine in the video was then edited; one with the original musical track used by the gymnast and the second with the new music composition. This was to make sure that the sonic environments in both videos were of the same quality.

Participants and procedure

Fifty-one musicians and fifty-one dancers participated in this experiment. All respondents were between the ages of eighteen and twenty-two. The musicians were undergraduates in one of the tertiary education colleges who have a musical background of at least eight years; the dancers were either students or performers who had been trained in ballet for at least eight years. As this reports on one of the preliminary surveys, respondents were asked to choose which of the video provides a better match in phrasing between music and movement. To avoid an irrational primacy effect, twenty-six respondents from each of the musician and dancer group watched the original video followed by the second video with new accompaniment; the rest of the respondents from both groups watched the video with new accompaniment followed by the original. After watching both videos, they were required to rate and choose either video 1, video 2 or 'both the same' based on the given questions. A chi-square test was used to analyze whether there are any significant differences in the ratings between musicians and dancers.

FINDINGS AND DISCUSSION

All respondents (n=102) evaluated which videos has the better phrasing quality between music and movement; some chose 'both the same' when they felt there was no difference between the two. Table 1 and Figure 1 show the percentage and frequency of the selection by the two groups of respondents. Most of the musicians (66.7%) chose video 2, which was edited with the new accompaniment, to have a better congruence in phrasing between the music and movements by the gymnast. The same applies to the dancer group, although the percentage was not as high in comparison to musicians. 35.3% of the dancers felt that both the videos present the same quality in terms of phrasing.

Table 1: The frequency distribution between musicians and dancers.

Groups	Video 1	Video 2	'Both the same'	Total
Musicians	6 (11.8%)	33 (64.7%)	12 (23.5%)	51
Dancers	5 (9.8%)	28 (54.9%)	18 (35.3%)	51

From the chi-square analysis ($p < 0.05$), it is revealed that there is no significant difference in the perception of phrasing between musicians and dancers based on the result $X^2 = 1.701$ and $p = 0.427$ (Table 2). The

Cramer V table further confirms that there is no significant relationship between specialization and perception of phrasing. This means that the phrasing in this experiment was perceived similarly by two groups regardless of the respondents' backgrounds. Although the video was enhanced based on a musical perspective towards the choreography and movement, dancers, who acquire more experience in using music accompaniment in various movements, similarly noticed the increase of congruence in phrasing between music and movement.

Figure 1: Selections of videos by musicians and dancers

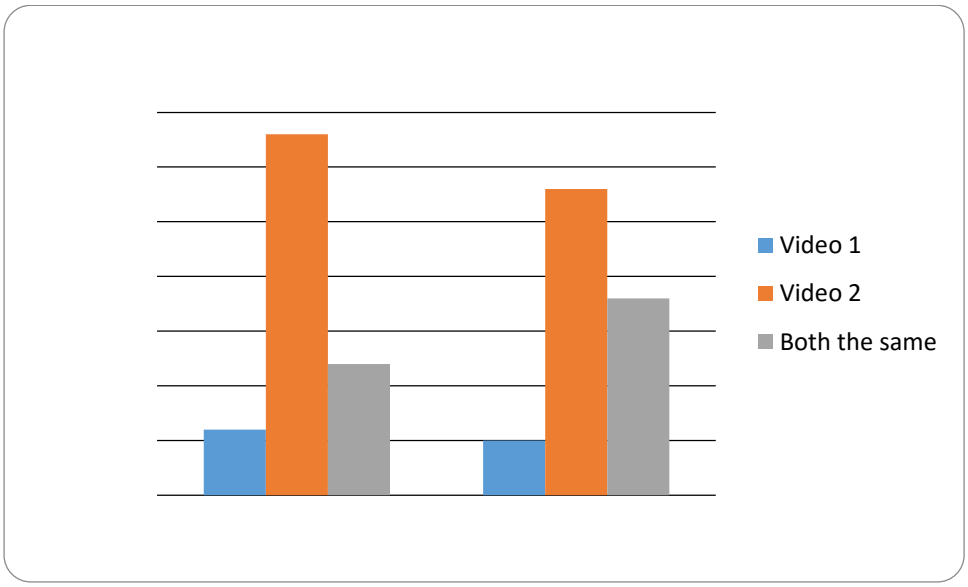

Table 2. Results of Chi-Square Analysis

Groups	Perception on Phrasing			X^2	sig-X^2
	Video 1	Video 2	'Both the same'		
Musician	6	33	12	1.701	0.427
Dancers	5	28	18		

Although focusing on a sports routine, this result further supports that the level of congruence between can be identified and perceived by viewers, as in much research in both dance (Krumhansl and Shenck, 1997; Mitchell & Gallaher, 2001) and film (Marshall and Cohen, 1988; Bolivar et al 1994; Camurri & Mouslend, 2010). This experiment also parallels other results in the same project that we are analyzing and investigating in relation to music and movement in different sports routines such as tai chi (Loo and Loo, 2015). As addressed in this paper, another concern to be considered is to look into the different perceptions of audiences with various backgrounds and levels of experience, the reason being that although music is used, many of these subjects such as sports routines and dance have been performed to and evaluated by experts who may have little or no musical background. Despite being competitive events, many of these dances or sports routines are performed to public audiences who may or may not have a dance or musical understanding but may be trained in other disciplines. As in Brownslow et al.'s (1997) study on the perception of dancers' movements and characteristics, it is found that general traits and characteristics were recognized by both professional and novice dancers but details were only noticed by the professional dancers. In terms of phrasing, it was also found that regardless of a structured or unstructured movement, experts in dance were

better at recalling a phrase than novices (Starkes et al., 1990 taken from Henley 2014). The merging of two subjects also creates many subjective and extreme opinions since all subjects were looking closely from their own perspectives. Therefore, both qualitative and quantitative studies are useful to support the aim of these studies.

CONCLUSIONS

This paper investigates the perceptions of phrasing between music and movement by respondents who have a background in music and dance. Since phrasing is one of the aspects shared between the two subjects, the research aimed to look into whether perceptions are vary due to the different background and expertise. Using one of the routines as a model for experiment, it was found that there is no significant difference between the perceptions of phrasing by musicians and dancers. The current research not only aimed to look into the importance of congruence between the two subjects, to investigate the different perceptions of viewers, but also to analyze the ability of music to change different perceptions or the quality of a movement. These experiments are in progress and will be reported in future articles.

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Contributions Of Village Institutes To Social Structure As An Enculturation Instrument

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INTRODUCTION

Education had priority in government policies in the Early Republican Period. The idea of creating contemporary individuals and a contemporary society in accordance with the principles of the Republican administration and the nation-state ideology was one of the objectives lying at the bottom of nation-building. (Ülkü, 2008). The purpose of establishment of village institutes was to make regulations in the economic and social structure of villages through education while struggling with the common illiteracy in villages. The desire to carry the endeavor of the country, which is in a struggle for modernization with the Republican revolution, to rural area led to the establishment of the institutes. Village institutes made great contributions to the regions they were established in the fields of education, culture, art and economy. While the institutes taught the villagers how to read and write, introduced technological innovations to the villages and provided a modern agricultural structure, they also raised nation awareness of the villagers in the framework of a cultural education model by cutting loose the conventional ties in rural areas, breaking the feudal structure and wiping out the efficiency of traditional dominant structure. Village institutes, which can be defined as the reflection of the Republican village project of Atatürk, were the project of "Grassroots Development" of the Turkish State. They were established under the aegis of İsmet İnönü, the Prime Minister of the current period, by Hasan Ali Yücel, the Minister of National Education, with the efforts of İsmail Hakki Tonguç with the intention that primary school graduate intelligent children would be trained in these schools and go to villages and work as teachers considering that almost entire Anatolia lacked schools or teachers. The most important fact about village institutes is that they were institutions emerged as a result of trials, which Turkey achieved naturally and compulsorily for the education problem, and joint efforts (Meydan, 2012, p.90-91). The young Turkish Republic had important motives to open these schools according to the current conditions. The philosophy of village institutes was to train teachers of village origin who could be beneficial for villages with pruning shears, picks, shovels, etc. in their callous hands rather than pencils and books (Akyüz, 1994, p.339). The need for raising the awareness of Turkish villagers, who held an important place in winning the War of Independence, through the institutes and making them gain the qualification of "**Republican Citizenship**" was one of the leading motives.

It was aimed to introduce village people to the republican regime and make them participate in the modernization process (Akşin, 1989, p.428). Village Institutes Law was enacted on 17 April 1940 during the ministry of H.Ali Yücel and institutionalization was provided (Yamaner, 1999, p.136).

The New Republican Government aimed to take urgent measures to solve the education problem standing in front of modernization and resorted to invite experts from abroad and determine the situation. In 1924, the American educator J. Dewey was invited. Dewey stayed in Turkey for 2 months and prepared a report about the structuring of education (Dewey, 2010, p,1). Following these studies, village institutes project was put into practice in order to raise a new intellectual type having a way with the villagers to solve not only the literacy problem but also the problems such as fighting against contagious diseases, saving production from primitive techniques (Erdal, 2013).

A- Village Institutes as an Enculturation Model and Culture Policies

What lay behind village institutes, primary objectives of which were development of the new social values, creating and developing the national culture, specialization of economic life and increasing the production and performance, was the republican ideology having the idea of "foundation of culture centers everywhere in order to secure the national unity by remolding millions of people living in Turkish territories in Turkish culture. The nation-state, achieved after uphill struggles in battlefields, was now face to face with the fight of becoming a nation with its land and the sociological fight of being a human with its people (Kafkas, 2008, p.42).

Educational institutions especially in the East had great responsibilities for the inclusion of citizens from every origin in the awareness of "Turkishness", which is an unbreakable whole. The focus of culture policy of Hasan Ali Yücel, the National Education Minister of the period, was the attempt to introduce the most famous literal and philosophical works into Turkish in order for the modernization to be based on strong foundations. The international and national policy of Hasan Ali Yücel was based on the grounds of;

a) Recognizing, understanding and respecting all the nations of the world; b) Reaching universal cultural resources without being captured in a closed culture; c) Not having race, religion, language and class discrimination among citizens. The state equipped schools with technical facilities, capital and immovable properties and sent teachers to make radical changes in villages. The environmental change desired to be realized through the institutes was not a superficial change, but changes in social and natural environment, human relations, education life and basic structure. The institutes became successful as they were a whole (Başgöz,1999, p.229).

B- Culturally Targeted Objectives of the Education Policies Implemented in the Institutes

1. It was necessary for masses of people to pay attention to their longings and expectations shaped in their own culture for the settlement of the culture created by contemporary technology and developments. The new cultural activities were required to be qualified to meet this demand. Use of folk based proper artistic habits of their own culture and the elements of universal art in education was the most important objective in village institutes to influence the healthy development of the individuals and the society.
2. While aiming to reach universal education and culture, paying sufficient attention to local values, developing public values, which had a long history, with universal standards in education and reintroducing them to public with their contemporary structuring were considered as a socio-cultural requirement.
3. Training well-equipped institute students, who would transmit this cultural structuring to villages, was adopted as a compulsory duty in terms of culture and education policies. In terms of education, it was aimed that students actually experienced these cultural activities, learned them by "doing-experiencing" and including them in their life and were trained in this way (Özyüksel, 2007).

Education had an important role and function in the change and development of social structure as a social development instrument. Village Institutes were an educational and cultural movement fed on socio-economic conditions specific to Turkey (Şeker, 2014).

C-Fields on Which Village Institutes were Effective as a Cultural and Educational Model

1. Their Effects in the Field of Education and Training

*Development of problem solving skills related to current moment and environment,
* Creation of a democratic environment for education and training by giving responsibility and authority to everybody in an expedient environment,
* The village institute implementation becoming an "ecole",
*Preference of educational principles tested in village institutes in modern teacher training schools (learning by doing-experiencing),
*Revealing the necessity for teacher candidates being connected with villages,
*Orientation to educational campus construction integrated with nature instead of big cities,
*Establishment of gender equality through coeducation successfully implemented in village institutes,
*The principle of "equal opportunity in education" implemented in village institutes being included in the primary objectives of national education.

2. Their Effects in the Field of Culture and Art

*Reaching the public resource, revealing the creativity and cultural values of the people through the institutes,
* Folk dances, folk songs, language and art of people spread country-wide through collective works between the institutes and created a new basis for folk culture.
* Public-intellectual classification disappeared and "public intellectuals" were started to be raised.
* Providing reach to "national" by revealing the values of nature, culture and history belonging to immediate environment.

3. Their Effects in Social and Economic Fields

*The riches of Anatolia were protected and the principle of "total independence" was tried to be realized with a sense of development based on work through village institutes.
*The institutes provided the formation of an intelligentsia coming from the public and became the symbol of "public revival" in a sense (Özyüksel, 2007).
*The education given in the field of agriculture and livestock breeding led them to be reflected as a means of livelihood.

D-Principles Constituting the Education System of Village Institutes

1. Holism:

The village institute system targeted the entire village life.

2. Versatility

Village institutes were based on the implementation of artistic-cultural training highlighting individual differences and capabilities as well as vocational training.

3. Coexistence of Theory and Practice

Prior to every action and activity in the institutes, there was thinking, theory and planning. The implementations were performed going through these phases in accordance with the plan.

4. Coeducation

Coeducation in the institutes was perceived as maintenance of village life in its own nature and girls were also given a role in management and leadership.

5. Being Planned

6. Reaching Universal Culture from Local Culture

In the institutes, village based authentic cultural materials were retreated with universal principles, methods and means. Folk melodies, dances and literature materials were reformed with advanced techniques. World classics translated by the ministry being taught primarily in village institutes and presence of at least one hour reading time every day provided opening to national and universal culture starting from immediate environment. Higher Village Institute pioneered it with "the Journal of Village Institutes" (1945- 1947) it published.

7. Productivity

Students' learning by seeing, experiencing and practicing was the basic philosophy of village institutes.

8. Use of Technology

Village institutes aimed the use of the most advanced technology especially in agriculture and daily life while giving service to villages. Thus, acculturation of students about the new technology was realized.

9. Self-management

In village institutes, the students were required to be given individual and social roles in class, at work and in life. The administrative tasks were given by turns and for a short time to avoid some students' being managing and some being passive and managed and "the concept of managing and managed" was targeted.

E. Higher Village Institute:

The most important of village institutes was Hasanoğlan Higher Village Institute. Playing an active role in the organization and development of the new education system as well as being in the Capital Ankara made Hasanoğlan Higher Village Institute, which was the brain and hearth of the institutes", important. Hasanoğlan Higher Village Institute was founded to train lecturers or inspectors for the institutes (Pınarcı, 2013). The students studying in Higher Village Institute had the right to select one of the eight branches below (Atakul, 2008).

Fine Arts (Both for female and male students),
Construction branch (For male students), Mining affairs branch (For male students),
Animal husbandry branch (Both for female and male students),
Poultry raising branch (Both for female and male students),
Field and garden agriculture branch (Both for female and male students),
Agricultural management branch (Both for female and male students),
Handicrafts and domestic crafts branch (For female students)

This three-year Higher Institute gave its students the opportunity to specialize in one of these branches. The students needed to make an academic research in order to graduate from the Higher Village Institute. This thesis-like research was performed on issues related to village and village education. These studies, prepared by the students, were published later and provided for the use of all Institutes (Dündar, 2000, p.61).

F. Closure of Village Institutes:

National identity change in 1945 and later on affected Village Institutes as well. With the development of Institute construction, resistance of traditional community leaders, who thought that the social structure and accordingly the statuses would change and economic interests could be damaged with the introduction of the new school in the village, was encountered. Some beys, landowners and cult leaders felt uncomfortable about the situation because the village teacher returning to the village awakened the villagers and provided enlightenment (Kafkas, 2008, p.69). The new system gave additional duties not only to the employees of National Education Ministry, but also to the relevant people in the other ministries (especially governors of sub-districts, districts and provinces). These new missions required to work both fast and very hard. Those who could not keep pace with working in such a discipline were producing negative criticism. Democratic behavior of those trained in village institutes could also create debates. There were also some negative conditions to obstruct the achievement of the system and to facilitate the work of antagonists apart from the stated reasons. Some of these adverse conditions can be listed as being in the war years, the situation's not being suitable in terms of the village and villagers, the resistance of people to leave their habits.

G. Foreign Assessments of Village Institutes:

1. The famous American educator, Dewey said "The schools in my dreams have been founded in Turkey" for Village Institutes. The American educator, Dickerman said that Village Institutes were a unique breakthrough and Turkish education system needed to be developed in this way. One of the foreign educators making research on Village Institutes and Tonguç was the American educator, Kirby. He prepared his work titled "Village Institutes in Turkey" as a doctoral thesis in Columbia University. The American educator stated that Village Institutes were not a copy of Western educators' ideas and systems and these institutions were the solution reached as a result of researches performed since Mahmut II through educational searches of Turkey without looking after political interests. In his article titled "Contribution of Turkey to the Education of our Century", Hausmann from Hamburg University evaluated Village Institutes as "They found the unique way appropriate to their own conditions while maintaining their efforts to determine their direction according to European samples. As a component element of the idea of changing villages through education, the whole of it is of Turkish origin. It is a contribution of Turkey to the education of our century with this feature (Atakul, 2008).

CONCLUSION

"Village Institutes", a Cultural Education Model, were an educational and cultural movement fed on socio-economic conditions unique to Turkey (Şeker,2014). Tonguç, the Minister of National Education of the time, stated the purpose of Village Institutes as "increasing the educational level of large masses of people in accordance with the Populism principle of Atatürk and so creating the necessary conditions for the establishment of Atatürk's Revolutions, providing active participation of public in political, economic and cultural life and raising the awareness of public about their rights. In Village Institutes, in order to influence the healthy development of the individuals and the society, it was aimed to use the proper artistic habits of their own culture depending on the source of folk and the elements of universal art in education, the activities performed in the institutes were presented to the immediate environment as a whole, people's learning while having fun and cultural revival of the village were realized with the contribution of artistic events held. The principal mission of Village Institutes was to raise individuals understanding, questioning and adding meaning to their life by producing as a result of these through acquisition of their own awareness with this education model. They provided heading towards social consciousness from individual consciousness. Village Institutes implemented human, democracy and art education as a whole. Consequently, Village Institutes pioneered the start of secular education and helped the formation of trained, skilled labor for industry. They started the transformation from patriarchal society to nuclear family society. They constituted the institutional infrastructure for a democratic society and culture. They pioneered the start of democratic and productive education raising questioning individuals away from root learning (Gökçora, 2007).

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Creating Three-Dimensional Parametric Architecture Popup Books For Architecture Education

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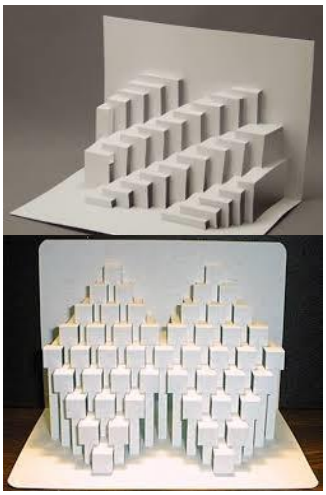
ABSTRACT
In the Introduction to Architectural Studio project lecture in Yildiz Technical University, during the winter semester of the education year 2014-15, a new approach on the design studio process has been practiced on a group of 15 students creating 3D pop-up books as the first step to create parametric architecture examples. In the Turkish university system, the new departments of the students are determined according to the grades of the students. Therefore, almost none of the new Turkish university students can be placed in the architectural faculties according to their skills. Thus, this new approach not only captures the attention of new students in the department, but it also introduces the new breakthrough movements in the architectural field such as parametric touches on the contemporary architecture. Thus, the paper will discuss the creation process of these wonderful 3D pop-up books as the first step on creating parametric architecture examples.

Keywords:history, past, historicity, historicism, architecture

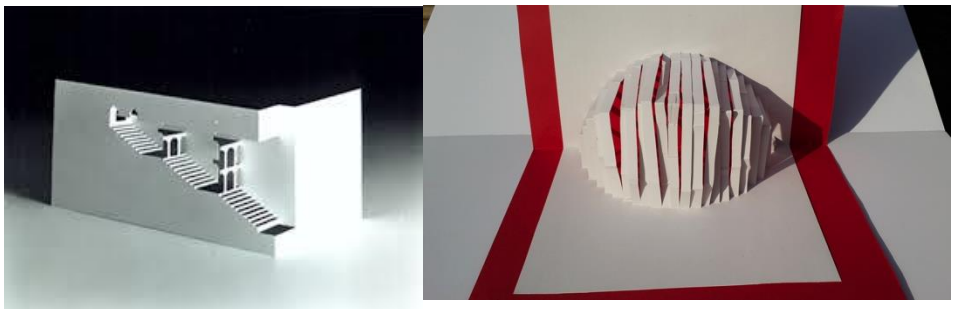
INTRODUCTION
On contemporary architecture it is known that architects are searching for new horizons to make their new and unseen unique creations. Without any doubt, it can be said that almost all of them are searching to work on the title of making avant-garde concept projects. Thus, it seems that parametrical architecture can be the answer of this search. It can be said that parametrical architecture can be defined as a process based on algorithmic thinking that enables the expression of parameters and rules together. It also can be defined as a paradigm, which encodes and clarifies the relationship between design intent and design response. Thus, the relationship between elements is used to manipulate and inform the design of complex geometries and structures. To make 1st years 15 architecture students to meet these paradigms based design as soon as early possible, creation of a 3 dimensional parametric based pop-up books was asked as the very early step of designing parametric structures on architectural education of the Design Studio Project 1, during the 1st semester 2014-2015 education year. Thus, the paper will have the design process and the best 3 d pop-up book examples of the semester.

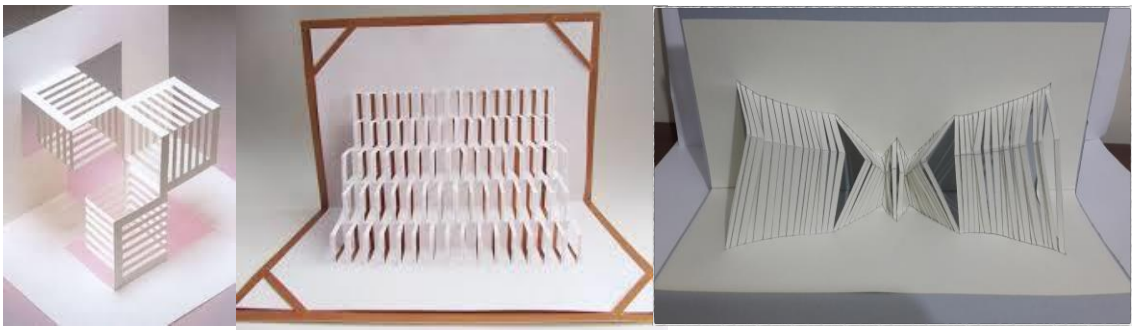
WHAT IS A PARAMETRIC DESIGN?
Parametric design is a process based on algorithmic thinking that enables the expression of parameters and rules that, together, define, encode and clarify the relationship between design intent and design response. Parametric design is a paradigm in design where the relationship between elements is used to manipulate and inform the design of complex geometries and structures.
The term 'Parametric' originates from mathematics (parametric equation) and refers to the use of certain parameters or variables that can be edited to manipulate or alter the end result of an equation or system. Parametric design is not a new concept and has always formed a part of architecture and design. The consideration of changing forces such as climate, setting, culture, and use has always formed part of the design process.
During the design process of introduction to architectural studio, one main question was asked to students, to create 3 d pop up books. This step could be the first step to understand what the parametric way of thinking can be on the architectural design.

3 D pop-up book examples



Figures1-2. 3 D pop-up book examples.





Figures3-7. 3 D pop-up book examples.

Most of the students selected to work with white parametric structure based 3 D pop-up books. Only some of them selected to add second pale colours to their parametric structure for having the colourful backgrounds. Fine art papers are used to create these 3 dimensional pop-up books.

CONCLUSION

During the last 10 years the search of parametric geometry has been an interesting subject for Contemporary Architecture. As the 21st century brought a new era for architectural design, CAD programs have evolved together with the idea of Parametric Form Finding. The possibilities offered make the collaboration of the architect with the computer now possible in terms of searching the appropriate form for given cases. As the

analysis of contemporary architectural pieces has indicated, the procedure of architectural design can be semi-automated. Parametric Form Finding, meaning the procedure followed offering solutions to spatial problems by using changeable variables, is transferring generative approaches into the architectural design workflow by introducing a set of rules to describe the constraints of the form and for the first year architecture students 3 dimensional pop-up books can be the preliminary step to understand the base of the Parametrical Form Finding on the design studio.

Thus, for the 1st year architecture education on the preliminary step of the studio project not only to take the attention of students but also to show and tell the parametric structural system to the students creating 3 dimensional pop-up books has been done during the winter semester of the education year 2014-15. It was seen that at the end of the 3 dimensional pop-up books exercises all of the group of the students had grades and became ready to come face to face with the complicated structural systems especially parametrical based.

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Critical Thinking Development In Course Of Teaching Russian In Kazakhstan

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ABSTRACT
The paper dwells upon the main peculiarities of critical thinking improvement while teaching Russian on the basis of specific characteristics of its functioning in Kazakhstan. Being widely spread on the territory of the former Soviet Union countries and considering as a pluri-centric language by some scholars (Shaibakova 2014), Russian is used in Kazakhstan its Standard form. Besides, there are some functions requiring specific approach for teaching Russian in poly-lingual environment as well as an instrument of critical thinking development. Thus, Russian language in Kazakhstan is treated now (1) as a language of Russian-speaking media; (2) as a language used for official communication; (3) as a language of higher education; (4) as a mediator in the process of translation. All aforementioned functions of the Russian language in Kazakhstan give different opportunities for critical thinking improvement in the process of Russian language teaching. Moreover, all of them cover different spheres of study and various skills. Thus, highly-developed critical thinking can prevent a lot of mistakes both in the process of official text composing and textual analysis as well as in teaching official communication.

Key words: Critical thinking, Russian Language Teaching, Pluri-centric Language, Standard Form of Language

INTRODUCTION

In Kazakhstan, Russian language is still used as a multifaceted means of communication. Being widely spread on the territory of the former Soviet Union countries and considering as a pluri-centric language by some scholars (Shaibakova 2014), Russian is used in Kazakhstan its Standard form be the representatives of different ethnic groups. It is necessary to underline there are some functions requiring specific approach for teaching Russian in poly-lingual environment as well as an instrument of critical thinking development. Thus, Russian language in Kazakhstan is treated now (1) as a language of Russian-speaking media; (2) as a language used for official communication (which is the key point of our research); (3) as a language of higher education; (4) as a mediator in the process of translation.

All aforementioned functions of the Russian language in Kazakhstan give different opportunities for critical thinking improvement in the process of Russian language teaching. Moreover, all of them cover different spheres of study and various skills, related both to theoretical and practical approaches. So, investigation of studying Russian as a means of critical thinking development in multi-lingual community can provide scholars with the information about some general peculiarities of that process. In our paper, we focus on Russian as a language of official communication, because this function has not been studied in details as a means of critical thinking development.

LITERATURE REVIEW

In many scientific works (including sources in different spheres, such as Philosophy, Psychology and Linguistics) critical thinking is defined as the process of thinking through questions. It is one of productive ways of verification of all kinds of information either in everyday life or in a process of scientific research. This method of scientific research and teaching is very old and very young at the same time. Let us remind the Socratic method of Ancient Greece, scholastic discussion of the Middle Ages, critical traditions of the European and Russian philosophy, etc. And nowadays critical thinking is considered to be “an important component of most professions”. It is also qualified as a part of the educational process.

As it was stated by the National Council for Excellence in Critical Thinking, 1987 (a statement by Michael Scriven & Richard Paul presented at the 8th Annual International Conference on Critical Thinking and Education Reform, Summer 1987, see also Scriven (1996) "critical thinking is the intellectually disciplined process of actively and skillfully conceptualizing, applying, analyzing, synthesizing, and/or evaluating information gathered from, or generated by, observation, experience, reflection, reasoning, or communication, as a guide to belief and action. In its exemplary form, it is based on universal intellectual values that transcend subject matter divisions: clarity, accuracy, precision, consistency, relevance, sound evidence, good reasons, depth, breadth, and fairness" (Scriven 1996). At the same time, D. Kurland underlined such characteristics of critical thinking as rationality and proactive attitude to the subject:…"we are thinking critically when we rely on reason rather than emotion, require evidence, ignore no known evidence, and follow evidence where it leads, and are concerned more with finding the best explanation than being right analyzing apparent confusion and asking questions. (…) Critical thinkers are **active**, not passive. They ask questions and analyze. They consciously apply tactics and strategies to uncover meaning or assure their understanding" (Kurland 2011); similar position is also expressed by Carroll (2005) , Engle. (2000). Thinking through question as the most important characteristic of the given phenomenon is also mentioned by Browne and Stuart (2006). On the other hand, G. Fleming argued that "critical thinking involves suspending your beliefs to explore and question topics from a "blank page" point of view. It also involves the ability to know fact from opinion when exploring a topic" (Fleming 2014). Kahane (2005) focused on the rhetoric aspects of critical thinking – as a process and principle of thinking. As we can see here, scholars pay attention to defining critical thinking as a multifaceted phenomenon, to giving detailed description of critical thinking process etc. But the process of critical thinking formation via teaching official language can not be considered as a topical sphere of research.

TEACHING RUSSIAN AS A LANGUAGE OF OFFICIAL COMMUNICATION AND CRITICAL THINKING IMPROVEMENT

How to teach critical thinking in the process of study Russian as a language of official communication? First of all it is necessary to take into account that the status of Russian in Kazakhstan is very specific:
- it is treated traditionally as a language of international communication; that is why Russian performed the function of official information dubbing
(in accordance with the Constitution of the Republic of Kazakhstan, the only official language is Kazakh, but many people still need Russian version of official documents). The multi-national character of Kazakhstan community presupposes the necessity of official communication on the basis of both languages. Thus, Russian language is used in legal procedures (if the trial is hold in Kazakh, and one of the parts needs a translation, an interpreter becomes the participant of the process). Also, all official documents should have Kazakh and Russian versions;
- Kazakhstan keeps strong international relations with the neighboring countries of UIS; so that Russian is used successfully as a mediator of official communication. Besides, we should also point out, that Kazakh students need such skills in the field of Russian as an official language as writing CV and bio, filling official forms in Russian etc.
The stereotype concerning official style is that it is characterized by a high degree of lexical restriction (a certain amount of lexical units and types of word-building); strictness of narration: words are mainly used in their primary meanings; impersonality (official speech avoids personal and concrete). Besides, the process of official document composing requires highly developed critical thinking. Thus, even filling the ready-made form of a document, students improve their skills thinking through questions. On the other side, composing of Bio and CV requires highly-developed critical thinking skills both in the field of text composing and following certain style requirement. The list of some "critical-thinking questions" related to procedure of CV composing is given below:
- Which pieces of information concerning my personality should be included in my CV?
-Why should I choose them?
-How to structure CV in the best way?
-How to represent my strong points in the best way in order to catch the employer's/recruiter's eye?
-Which characteristic features of official style should I primarily take into account?

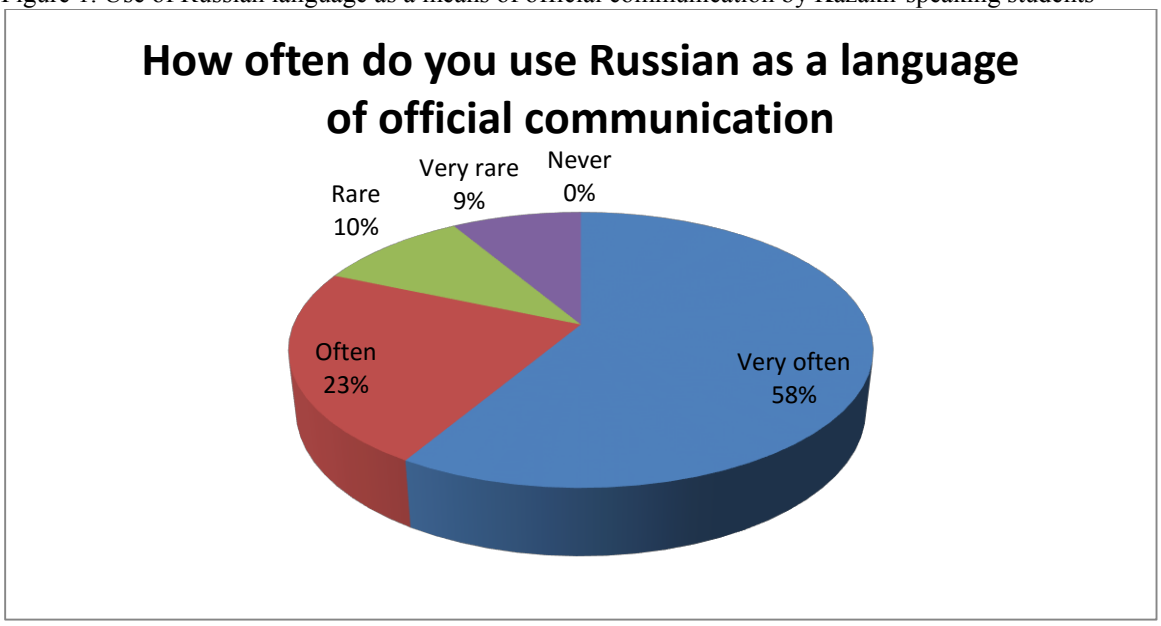
So, highly-developed critical thinking can prevent a lot of mistakes both in the process of official text composing and textual analysis as well as in teaching official communication.

All aforementioned questions were included in the lesson procedure while teaching Russian as a language of official communication. The results of survey demonstrated that students appreciated the productivity of the proposed approach to teaching official Russian.

RESEARCH PROCEDURE

100 students, who choose Kazakh as a language of education (they study such subjects as Kazakh language and Literature, Journalism, Law and History) were involved in our research procedure. We asked them about use of Russian in the aforementioned field. The results are represented below in a diagram:

Figure 1. Use of Russian language as a means of official communication by Kazakh-speaking students

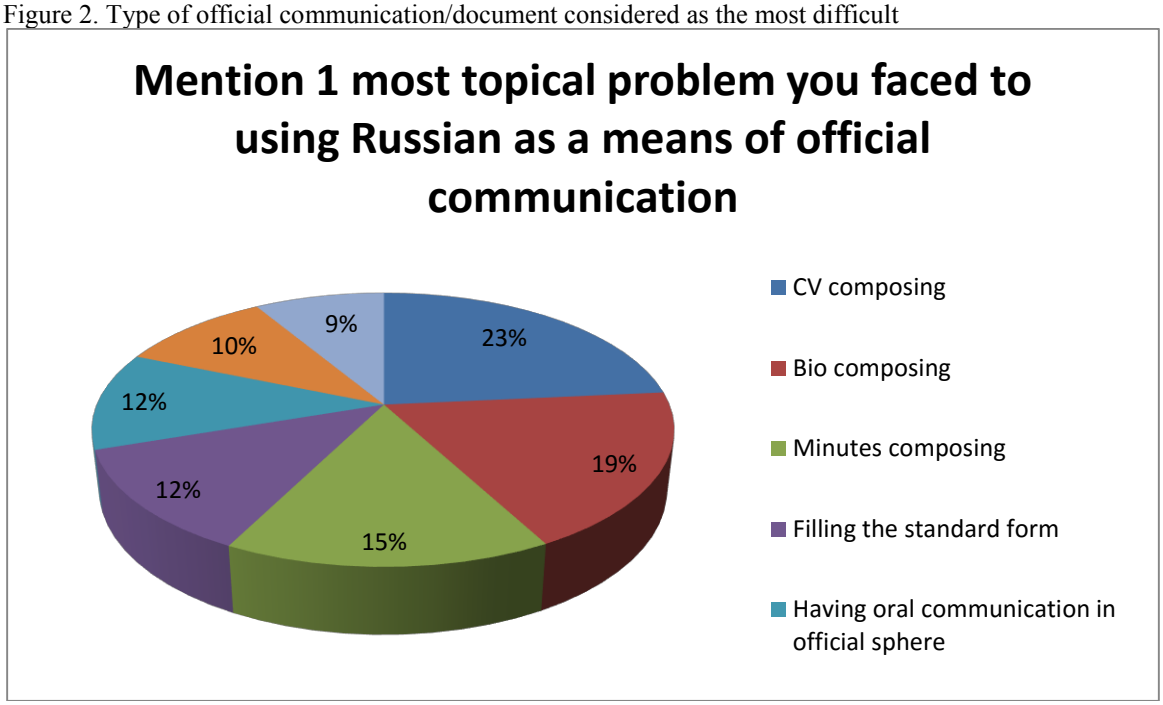


Teaching Kazakh people whose native language is also Kazakh (we should point it out that after 20 years of independence many Kazakh people still use Russian as their native language, and choose Russian as a language of their study at school and at the university), we faced to such problems as

- they are really good at everyday Russian, but as a language of science and as a language of official communication, it is not so highly-developed as Russian used for general purposes (similar problem also takes place for the Russian speaking students, but it was not under consideration in our paper; it should rather be treated as an object of special comparative research);
- they rather can successfully hold oral communication in the aforementioned sphere than write an official text (including such different types as CV, Bio, minutes, and even filling the standard form of official document).

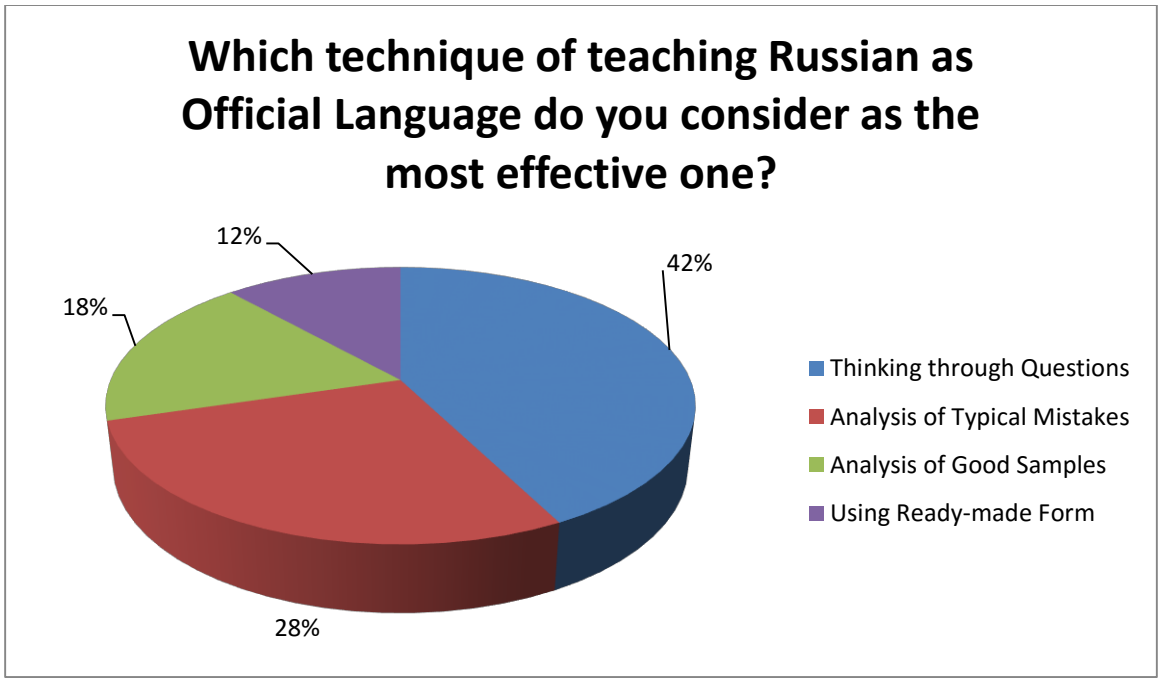
So, the next question of our survey was: Which type of official communication/which type of official documents is the most difficult for Kazakh-speaking students learning Russian for official purposes? The results are represented in the diagram below.

Figure 2. Type of official communication/document considered as the most difficult



Hereafter we focused on the research of students' opinion concerning successful tactics of critical thinking use in the process of learning official Russian language. They prioritize different techniques which we used in course of teaching Russian as a means of official communication on the basis of their applicability in the process of official document writing. As the results show, "thinking through questions" is considered to be the most effective and helpful tactics for official texts composing in comparison to work with strong/weak samples, analyzing typical mistakes etc. The results of students' opinion survey are the following:

Figure 3. Students' opinion concerning the most effective tactics.



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FINDINGS

Analysis of the answers given by the students indicated that 42% of the students found "thinking through questions" technique in the process of document composing more practical and effective compared to traditional analysis of typical mistakes (28%), work with samples (18%) and use of ready-made forms (12%) (Figure 3). This kind of activity was characterized as "creative", "practical", "co-operative", "enhancing communication among the students". However, minority of the learners still favoured analysis of good/bad samples and use of ready-made documents (or structured samples).

CONCLUSION

On the basis of our research it is possible to state that official communication in Russian is still up-to-date in multi-lingual community of Kazakhstan, and Kazakh speaking students consider skills in that field as important one. On the other hand, the favoring position of such technique as "thinking through questions" shows

- tendency of prevailing of techniques based on critical thinking principles;
- students' willingness for language study based on such kinds of activities.

The present study suggested a model for using "thinking through questions" technique to foster creative writing skills even in such formalized and stereotypic field as official communication. It is also an attempt to bridge the lacuna in field of teaching Russian as a means of official communication in such multi-lingual community as the Republic of Kazakhstan.

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Deaf Children With Additional Disabilities: Description And Research

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ABSTRACT
This paper aims to provide information on deaf children with additional disabilities. There has been an increasing focus on deaf children with additional disabilities over the last decade, especially on cochlear implantation patients. Improvements after the cochlear implantation differ greatly. The improvement depends on the degree and the type of additional disabilities the deaf child has. In this paper, related research studies were summarized and discussed.

Keywords: deafness, additional disability, cochlear implants.

INTRODUCTION
Thanks to today's technology, hearing loss can be diagnosed within the first few hours following birth. Newborn babies that are suspected to have hearing loss are referred to a well-equipped audiology clinic for a hearing screening test and to be evaluated. If hearing loss is confirmed through diagnostic tests, early intervention is initiated and hearing aids are fitted. Current practice is that within the first three months of life, babies would receive hearing aids and start in an early intervention program before six months of age (White, 2006).
Studies (for example Etmer and Melo, 2001; Geers, Brenner and Davidson, 2003) showed that if there were no additional disability aside from the hearing loss, babies who received early diagnosis, a hearing aid fitting/cochlear implants and intervention were able to acquire spoken language normal, or near normal levels, up to school age and be able to attend normal schools. However, when there is an additional problem aside from deafness, the child's development displays significant differences despite the early diagnosis and intervention.

ADDITIONAL DISABILITIES TO DEAFNESS
The rate of other disabilities in addition to hearing loss was reported to be between 25% and 40% in some studies (Szymanski, Brice, Lam and Hotto, 2012). The highest rate was presented by a report prepared by the Gallaudet Research Institute. Regarding the situation in the U.S. it was stated that in 49% of deaf children have an additional disability (Bruce, Dinatale and Ford, 2008).
This high rate may be explained by the etiology of the deafness. It appears that the causes of the deafness may also be responsible for other disabilities. For example, factors such as meningitis and CMV (Cytomegalovirus) usually lead to other disabilities besides deafness. In genetic hearing loss, the incidences of additional disabilities are at a much lower rate (Bruce, Dinatale and Ford, 2008).
Deaf children with additional disabilities were defined as children in need of special education regardless of their hearing capabilities (Bruce, Dinatale and Ford, 2008; Edwards, 2007; McCraken and Turner, 2012). Speech and language disorders, developmental delay and mental disability, learning disability, attention deficit, visual impairment, cerebral palsy, chronic illness, emotional disorders, autism, auditory neuropathy spectrum disorders were listed as additional possible disabilities (Bruce, Dinatale and Ford 2008; Edwards, 2007).

Studies related to the language and listening skills of deaf children with additional disabilities have increased over the past 20 years. It was argued that one of the reasons for this increase was the detection of hearing loss earlier than the additional disability as a result of the hearing screening test. Thus, these children started in early intervention programs designed for deaf children and their additional needs were noticed during the later stages of these programs. Differences in their educational needs means that there is a need to develop appropriate educational programs specifically designed for these children. It is important to bear in mind that the effects of multiple disabilities have a bigger impact on the children then a single disability. Each disability does not simply add to one another. They create a compound effect on the child's entire mental development. For instance, the needs of a deaf-blind child are quite different from the needs of a child who is only blind or deaf. What is known about hearing loss and visual impairment will not provide enough information about this specific child's special needs. Being deprived of the two senses which are very crucial in the learning

process causes very significant differences in the way the child perceives the world and people when it is compared to children who have only hearing or visual impairment (Bruce, Dinatale and Ford, 2008).

Therefore programs which cover both the development of speech and language skills and fulfill specific needs which arise from the other disabilities are fundamental. Zane, et.al.(2014) propose the use of functional analysis in deaf children with autism spectrum disorder. In service training for the teacher of the deaf was also seen as a tool to prepare more capable teachers in the field (Bruce, Dinatale and Ford, 2008). Yet more research is required both to establish educational programs for those children and new teacher training programs to train teachers to work in this specific field.

Another reason for the increase in research was the beginning of cochlear implantation (CI) of deaf children with additional disabilities. In fact most of the data come from the research established by various CI teams which were concentrated on speech and language development of these children to demonstrate the benefits of the implant. Large variations were reported among the research groups (Dettman et al., 2004; Edwards, 2007).

ADDITIONAL DISABILITIES AND LANGUAGE DEVELOPMENT

One of the earlier studies conducted by Pyman, Blamey, Lacy, Clark and Dowell (2000) on children who had cognitive and motor delay in addition to hearing loss, confirmed that the language skills of these children following the implant progressed at a significantly slower rate than children who only had hearing loss. However they pointed out the significant variations in their results and suggested to evaluate each child in an individual basis. Holt and Kirk's (2005) findings also supported this study. The 19 children who were monitored for two years after the implant showed measurable improvement in terms of language and speech skills. However, their level of development was significantly lower than children without additional disabilities as in the Pyman et al. (2000) study. They also reported better speech perception scores than production skills. Similar studies (Dettman et al., 2004; Edwards, Frost and Witham, 2006) also showed that children with moderate cognitive delay who were implanted at an early age tended to display significant improvements in terms of language development.

Al-Kashlan, Boerst and Telia, (2001), compared the language development two children who were deaf and blind but had normal cognition, to the language development of the children who were only deaf. They reported similar progress with deaf only children. They argued that the result of their study indicated significant benefit of early cochlear implantation in this specific group.

Looking at the results of the studies conducted on deaf children with additional disabilities it can be argued that language development was achieved to a certain extent when the additional disability was moderate or mild; whereas in cases of severe disability, language acquisition did not occur in most of the cases. Therefore, it is concluded that the level of severity of the disability may help in estimating and creating realistic expectations both for educators and families regarding the child's learning and language skills as well as the type of the disability. For example, the effects of a moderate degree of learning disability compared to a severe mental disability will be quite different on the development of a deaf child.

In case of autism spectrum disorder, the situation seems slightly different. It is well known that many children with autism spectrum disorders are unable to develop language and speech skills even with normal hearing. Therefore, the post-implant changes observed in these children were improved eye contact, awareness of their environment, reaction to music, vocalization, use of sign language, and response to requests rather than improved language skills (Donaldson, Heavner and Zwolan, 2004).

These studies, which were focused on the speech and language development of children with additional disabilities, also showed that a single program or method of evaluation was inadequate for these children because of the complexities of their needs. Therefore some writers have been suggesting that in deaf children with additional disabilities especially following a cochlear implant, it will be more meaningful to focus on the quality of life and family satisfaction than to simply concentrate on the development of their language skills to establish the benefits of the implant (McCraken and Turner, 2012; Mulla, Harrigan, Gregory and Archbold, 2013).

These authors claimed that since additional disabilities affected cognitive function, language acquisition could not be expected and argued that hearing aids and implantation improved the quality of life of the

children and their families. The studies evaluated the views of the families using qualitative research methods to demonstrate the satisfaction level of the families post-implantation. All of the families reported that even though they didn't see any language development in their child, the child showed more participation in daily family activities following implantation and that they started to communicate more easily. In addition, they expressed that they would recommend implantation to other families in the same situation (McCraken and Turner, 2012; Mulla, Harrigan, Gregory and Archbold, 2013). It is argued that the sound provided by cochlear implants connected the children to their environment and helped them to participate the family life which was an enormous contribution to the quality of life of these children and their parents.

CONCLUSION

The research related to deaf children with additional disabilities showed that cognitive factors were the most important factors in predicting language development in these children. Unfortunately, the evaluation of cognition is very difficult in young children with additional disabilities.

This difficulty can be overcome with increased clinical practice, scientific research and by sharing experiences between professionals in the field. In this way, clinical practices can be improved and the families can make better-informed decisions about the child's education or communication options (Edwards, 2007; McCraken and Turner, 2012).

In terms of cochlear implantation, it seems obvious that there is a need for the development of standards for benefits provided by cochlear implants in children with additional disabilities. Many of these children have traditionally not been implanted due to late or non-presentation, concerns about other health issues and lack of information about possible outcomes following Cl. It is apparent that a significant number of these children do get benefit from a cochlear implant but traditional measures for assessing the outcome are unlikely to accurately reflect the actual success. There is an urgent need for new outcome measures for these children (Robinson and Boyd, 2013). New measures should also consider the social and psychological gains rather than simply measuring speech and language outcomes. However these concepts should be defined clearly. Parents and children themselves should be more included in definition of terms like “success” or “benefits” in cochlear implant use (Edwards, 2007; McCraken and Turner, 2012; Mulla, Harrigan, Gregory and Archbold, 2013). It seems vital to increase and verify research conducted on this group in order to develop appropriate educational programs for these children and their teachers.

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Design Method Of Integrated Circuits In Education

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ABSTRACT
This paper deals with the Transaction Level Modelling (TLM) and Register Transfer Level (RTL). The TLM is considered as a practical design approach to the high complexity of the system design. It is highly effective especially in the implementation of hierarchically-arranged system model. This situation is typical for HW/SW Co-design. The RTL covers lower-level design techniques and it is described on a gate level using the signals. Students try to work with both approaches and also solve particular tasks in tuition materials of the Gate Fields and Advanced Architecture of Processors courses. This approach brings better overview of design methods in terms of education; therefore, they can use the same programming language (SystemC) for design of integrated circuit and a firmware of the device.

INTRODUCTION
Nowadays, rapid development of electronic devices is required as manufactures release new models every six months; therefore, there is an effort to design integrated circuits (ICs) and systems rapidly. It is very important to produce good-quality products which will be complied for rapid development and a low design price.

Modern integrated circuits and systems contain tens of millions of transistors and other important elements creating the final product know as a System-on-Chip (SoC). A SoC consists of a memory located on a chip, a programmable processor or more processors, peripheral devices and other hardware modules. The speed of development is supported by the use of Intellectual Property (IP) cores which are modules performing specifics tasks and also enable the utilization of other proposals for a SoC. For this reason, the designers use the same modules for new proposals and this solution reduces the time for product development and its subsequent commercialization. Therefore, programmable chips manufactures produce modern Field Programmable Gate Arrays (FPGA) containing powerful ARM processors in a single-chip configuration.

The method known as HW/SW Co-design is used due to the growing demands for the integration of components and their numbers on single-chip. Today, the design of hardware and software run concurrently and many manufacturers already apply this method. With the application of these developments in integrated circuits and systems, it is possible to encounter in the automotive, aerospace, industrial automation, consumer electronic and other industries.

The design methods use several kinds of programming languages. These basic languages include VHDL (VHSIC Hardware Description Language) and Verilog. The modern methods work with SystemC (IEEE Standard 1666-2005). Each of these design languages describes different design structure levels.

The current development trend of a SoC also focuses on transfers between individual Transaction Level Modelling (TLM)-Register Transfer Level (RTL) design levels for the faster development of methods for use in HW/SW Co-design. Each of the IP cores can be described in other types; hence, there is the effort to create methods because of the differences in the description of the individual methods but none of them have made their mark on a global scale.

The design of integrated circuits has undergone change rapid changes and it was necessary to react to these changes in education. These methods bring new pieces of knowledge which were mentioned it above. Therefore, we performed a innovation in Gate Fields and Advanced Architecture of Processors courses.

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These courses were innovated and they are focused on design layers Register Transfer Level (RTL) a Transaction Level Modelling (TLM). Students can work with state-of-the-art design methods and they also can try new ways SoC.

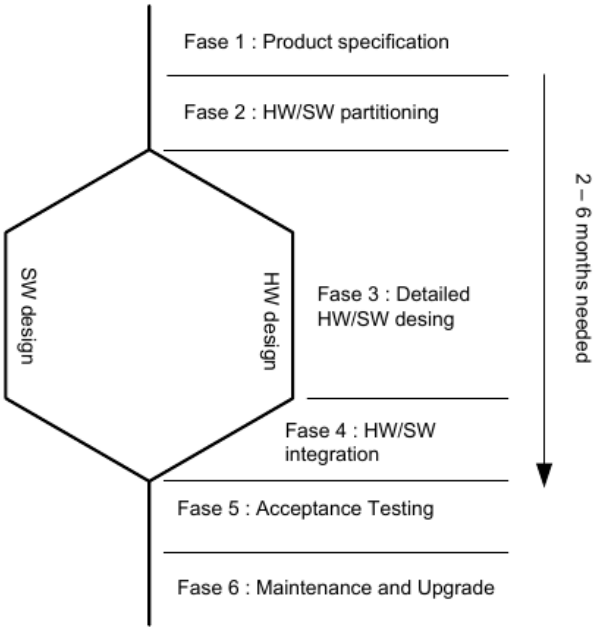

Fig. 1*:* Design flow of implementation (Abdurohman et al., 2009)

Related work

Many scientists work with abstraction levels in different way. Some of them are tried to find suitable conversion methods. Every method solves this problem with own approach. Some researches consider to create a method which is based on Finite State Machine (FSM) (Khan et al., 2007) (Balarin et al., 2006) (Bombieri et al., 2011) \cite{Habibi2006}. They use the FSM like a tool for translation between SystemC and VHDL. This solution seems to be an useful candidate. FSM is generated by Abstract State Machine Language (ASML) due to better simulation and coverage of the RTL.

The authors (Bombieri et al., 2011) mention the Extended Finite State Machine (EFSM) like a method for the conversion. Their work is focused on a fault simulation from RTL layer to the TLM layer due to better simulation speed-up. The EFSM creates phases containing particular steps for conversion between the RTL and the TLM.

Also other research (Moinudeen et al., 2006) is focused on fault simulation which is based on own FSM which is contained a modified Abstract State Machine.

Other usage of is to defined the TLM by FSM (Niemann et al., 2007).

PROBLEM DEFINITION

An integrated circuit can be described at different levels reflecting the design architecture where each has its advantages and disadvantages. Therefore, the current development trend of a SoC also focuses on transfers between individual TLM-RTL design levels for the faster development of methods for use in HW/SW Co-design. Each of the IP cores can be described in other types; hence, there is the effort to create methods because of the differences in the description of the individual methods but none of them have made their mark on a global scale (Habibi et al., 2006).

Register Transfer Level

The Register Transfer Level (RTL) is a description of the hardware at a higher level of abstraction. The design of integrated circuits is defined as a set of registers interconnected by combinational logic which implements logical operations. The HW level can be described as a gate level using the signals in the model which communicate with the individual blocks (memories, data-paths and execution units). The RTL model is based on an accurate clock cycle for the control unit and data-paths (Calazans et al., 2003) (Khan et al., 2007).

The creation of a configuration file for the FPGA is divided into several steps. The first is the synthesis, followed by mapping, placement and their interlinkage. The last step is to create the configuration file itself (Vlcek, 2014).

The VHDL and Verilog languages can be used for the description of the RTL level.

Transaction Level Modelling

The Transaction Level Modelling (TLM) belongs among the system-level design and it is based on the time domain. This level allows focusing on the functionality of the design; as a result, the implementation details are omitted and they will be added in the lower levels. The individual block is captured at an abstract level.

The advantage of the TLM is the simulation speed which is several orders for magnitude higher than for the RTL due to the omission of the implementation details at a lower level (Calazans et al., 2003) (Khan et al., 2007).

The TLM design can be described in the SystemC language.

Difference between SystemC and VHDL

VHDL is a language supporting a description of the structure of ICs. The language describes a design on the gate level and it is used for a simulation verification and testing of HW design at RTL layer. The TLM layer cannot be implemented due to an accurate clock cycle, which means, the signals are bound with input and output port and their states (Calazans et al., 2003) (Automation, 2009).

SystemC is based on the C++ language library containing macros and classes supporting concurrent behaviour, own data types for describing of HW etc. It cooperates with all data types including C++ Object-Oriented Programming (OOP). It fulfills all requirements which are needed for system-level language (Cote et al., 2002) (Moinudeen et al., 2006).

The usage of this language is appropriate for HW/SW Co-design because of the common language for HW and SW designers who can better cooperate in developing a SoC (single testbenches, direct access to the hardware model so as to change the algorithm etc.). SystemC allows to use both design level (RTL and TLM). This brings big advantage for designs because the language is more suitable for design of ICs. The TLM layer has a problem with a design test. The test has low coverage due to difference in description of layers (Vlcek, 2014) (Bhasker et al., 2004).

METHODS

The presented methods represent a new trend which can be seen in design of integrated circuits. As we mentioned before, the methods are used for transfer between particular layers (TLM and RTL). The current trend shows a problem with a coverage of TLM tests. Due to this problem, it is utilized methods which solve the transfer. We propose two methods – Finite State Machine and TLM Transactor.

Finite State Machine

A transfer between levels can be represented in a natural language with the help of formal Finite State Machine (FSM) model where the whole conversion process is expressed by means of natural language specification. The Abstract State Machine Language (ASML) is based on the theory of Abstract State Machines (ASMs) modelling language (.NET framework) and it is used to define the FSM (Bhasker et al., 2004).

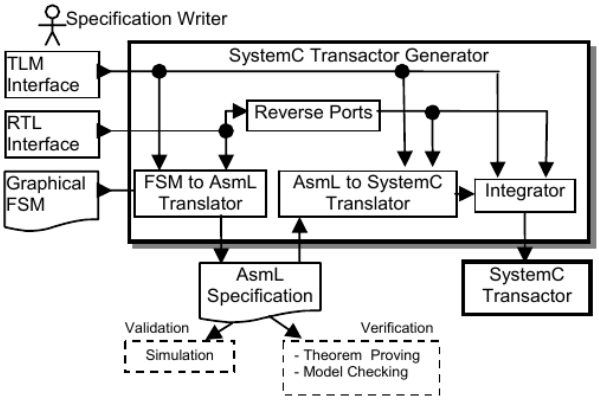

Fig. 2: FSM and SystemC transactor generator (Khan et al., 2007)

TLM Transactor

The transactor is one of the other methods which are also utilized in the FSM. Its aim is to connect and translate communications at each RTL-TLM proposal level. Each transactor includes a pair of interfaces where the first is assigned to the RTL level and the second to the TLM level; however, they may also be assigned multiple interfaces pairs. If there are multiple transactors, then they may have similar behaviour as in the case of protocols (master, slave etc.) (Balarin et al., 2006).

In paper (Balarin et al., 2006), the authors describe their own draft UTOPIA Transactor which is used for FSM \cite{Bhasker2004}. UTOPIA is a standard protocol (Fig. 2) for connecting devices implementing the Asynchronous Transfer Mode (ATM) and Physical (PHY) layers. Figure 2 shows the interlinkage of the individual RTL level. Here, the transactor is presented as an intermediary for communications between these levels.

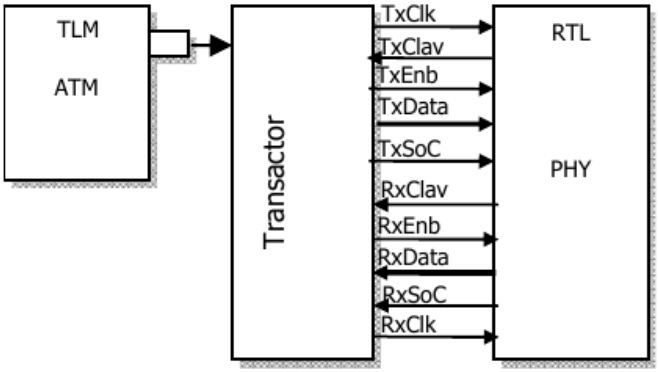

Fig. 3: TLM Transactor (Khan et al., 2007)

EDUCATION OF DESING METHODS ON INTEGRATED CIRCUITS

Students work with proposed techniques which are mentioned in this paper. They use the development kit FPGA ZedBoard Zynq 7000 which includes CPU ARM with a programmable logic. Designs can be processed by programming languages VHDL and SystemC. Both design layers are possible.

Each course has developed own new lecture materials and laboratory tasks. The Gate Fields course is focused on familiarization with gate arrays as a whole. During the semester, students deal with topics of digital (electronic) circuits (logic gates, combinational logic circuits, sequential logic circuits) which means that the lectures are practically oriented on using these knowledges. Furthermore, it is used a basic technique of hardware diagnostics which is called Boundary Scan and its task is to test the internal wiring in integrated

circuits and systems. The Advanced Architecture of Processors is also focused on advanced processor types and explains their function and principles. The part of laboratory tasks is an explanation enlarging the knowledge from the lectures and this solution introduces the students into the issues. Students engage in a diagnostic aspects of locating faults which are tested in the design of the processor.

RESULTS

Each of methods solves the transfer in different way. The FSM creates a SystemC file containing a source code for the RTL abstraction. In the other hand, the TLM transactor deals with the transfer via own draft UTOPIA which is used by the FSM. The transfer between TLM and RTL improves an automatic generation test for the higher level of abstraction. The improvement brings better functionality of a SoC and the rapid development of design. RTL test can be used for the TLM abstraction.

The tuition materials provide an option to create own design of integrated circuits to students. This process perform the entire process from theoretical knowledge to the programming their own circuit on the development kit. One part of this work is teamwork which means that they work in teams. Each of them is dedicated to specific activities and encourages their colleagues to new ideas of their own project. Based on the new tuition material students are allowed to work on interesting solutions.

CONCLUSIONS

The aim of this article was to describe integrated circuits and systems design methods. It presented individual proposals for each (RTL and TLM) design level. This was followed by FSM methods which are an interesting alternative for the connection of RTL and TLM levels for the SoC designs. It uses previously presented transactor methods connecting individual communications through its interface.

Based on these tuition materials, we improved team collaboration by students. The another benefit was the modernization of educational labs where students work with modern FPGA kits.

In another part of the research process, this will be devoted to finding suitable methods for converting design levels for the SoC and the comparison of different methods with each other, and with automatic test generation.

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Determınatıon Of The Knowledge Levels Of Students Studyıng At The Health Related Departments About Renewable Energy Resources And Protectıon Of The Envıronment

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ABSTRACT
This study was conducted in order to determine the knowledge and awareness levels of students who studied the elective subject of environmental ethics at the Vocational School of Health Services (AVSHS) in Aydın, Turkey.
The results of 172 students' questionnaire showed that the students did not have sufficient knowledge about renewable energy, renewable energy recourses, the Kyoto protocol and whether the resources used to produce energy at present cause to the release of greenhouse gases or not.

Key words: Renewable energy sources, environmental awareness, environment and energy knowledge, Kyoto protocol

INTRODUCTION

Environmental problems are among the most discussed matters which consider whole people and waiting to be solved. Ecosystem is a functional and renewable community of living organisms in conjunction with the nonliving components of their environment and an interacting system by means of transferring materials and energy.

Increasing population numbers in Turkey and in the world, industrialization, transition to the city life and desire to have more comfortable and luxurious life increase the demand for energy and natural resources. Traditional energy resources, fossil fuels which have negative effects like global warming and air pollution, have a big portion in supplying this demand. Use of excessive energy brings along some problems, particularly excessive use of limited resources of the World and damages given to the environment during the production of energy are on the top of the list (Kaygusuz, 2002).Increasing the awareness and knowledge of people and taking measures in these matters is considered as an important step towards solving the problems. Therefore, there has been an increase in the numbers of studies in terms of generating environmental awareness and protection of environment in people especially young ones (Bradley, Waliczek & Zajıcek, 1999, Töman & Çimer, 2013, Yurtseven, et al. 2010). If communities and individuals are not made aware about energy, even we provide much more new and different resources, it is a fact that it will be insufficient considering the increasing population and industrialization rates. But, when the awareness level of consumers increase, their positive attitudes towards environment also increase (Bradley, et al., 1999).The success of energy policies are evaluated based on the criteria that whether the demands towards the present and future requirements of community are provided widely in benefit of community without damaging environment and accepted by community (Ediger & Kentmen, 2010).

In recent years, reducing environmental problems to minimum (especially global warming) has become important to leave a better world for future generations. In this context, there has been a big effort to develop alternative technologies and resources, and to increase their use instead of intensively used energy production methods from fossil resources in the last two centuries. When we looked at the previous studies related to renewable energy and renewable energy sources mostly have been carried out in the areas such as engineering and economics. These studies were carried out to determine the awareness of individuals about energy or the attitudes of individuals towards a certain type of energy (Kaygusuz, 2002; Kaldellis, 2005; Kaya, 2006; Swofford & Salttery, 2010; Fırat, Sepetçioğlu & Kiraz, 2012). In the previous literature in education area, issues such as environmental awareness, pollution, protection of environment and education on environment have been studied (Jınlıang & et al. 2004; Alım, 2006; Tunç, Ömür & Düren, 2012; Özdemir, 2010; Aydın, 2010; Doğan, 2013).

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There have not been many researches on the training of subject and determining the knowledge level of individuals (Töman & Çimer, 2013; Yücel, 2007). Knowledge plays an important role in developing individual positive attitudes towards their environment and new technologies as in many matters (Uzun & Sağlam, 2007; Özcan, 2010). Therefore, this study was performed to determine whether the students studying in the field of health sciences at the vocational high school have the sufficient knowledge about environmental issues, renewable energy, and global partnerships in terms of protection of environment.

In this study, answers were sought for the questions below:
1. Do the students know what the renewable energy is and what the renewable energy resources are?
2. Do the students know the difference between the renewable energy resources and fossil fuels used intensively at present in terms of environmental effects?
3. Do the students have any information about global (international) protocols or treaties like Kyoto protocol aiming the protection of environment?

MATERIAL AND METHOD

This study is a descriptive survey case study. Questionnaire consisted of five close-ended questions on demographic features and six close-ended and one open-ended seven questions on research subject.

The questionnaire consisted of two parts; the questions in first part assessed the demographics of the students. The knowledge of students related to environment, protection of environment, energy and renewable energy types were assessed with the questions in the second part.

Study Group

The study group was the students of Adnan Menderes University (ADU), Aydın, Turkey, and the study samples were students, at the Aydın Vocational School of Health Services (AVSHS), who took the elective subject of environmental ethics students during 2012-2013 and 2013-2014 academic years.

Data Analysis

The answers given to the questions in the survey were transferred to the Statistical Package for the Social Sciences (SPSS) program, and below analyses were realized.

Sex, education program (P)/department (D), whether they took any course about environment or not, whether they read any book about environment. The answers they gave for how much they were interested in the environmental news in the printed and visual media and to the questions about renewable energy were determined for the participants.

One-Way ANOVA was used to determine whether there was a correlation between demographic and study issue data. The significant level was $p < .05$.

Demographic Features of Participants

D/ P distribution of the students who participated the survey is shown in Table 1.

Table 1: P/D distribution of students who participated the survey.

Program / Department	**n**
Environmental Health Program (EHP)	41
Physiotherapy Program (FTRP)	16
Medical Secretarial and Documentation Program (MSDP)	31
First Aid and Emergency Program (FAEP)	8
Medical Laboratory and Techniques Program (MLTP)	25
Dialysis Program (DP)	13
Medical Imaging Techniques Program (MITP)	13
Anesthesia Program (AP)	3
Nursing Department (ND)	3
Midwifery Department (MD)	2
4 Year Degree Departments(4YD)	14
Various Vocational Schools (VVS)	3
Total	**172**

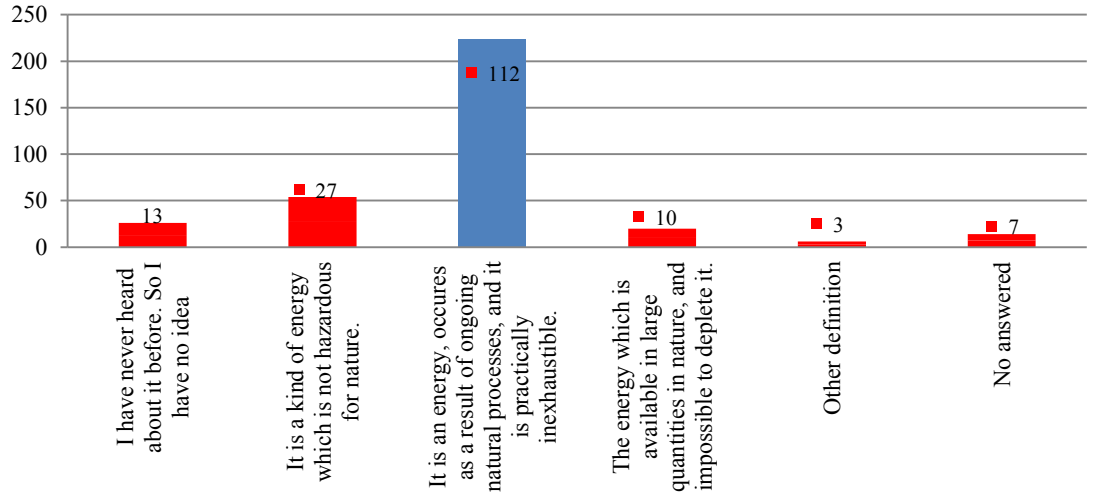
The numbers of students who taken any lesson/course about the environment before were 68 (39.8%), not taken were 103 (60.2%), and one of the participant did not answer this question.

The numbers of students who read any book about environment were 97 (56.7%), who didn't read were 74 (43.3%) and one of the participants did not answer it.

When we looked at the answers that given to the question of "When you read or watch one of the printed or visual media products (newspaper, magazines, internet, TV, etc.) how much attention do you pay to the news about environment?" Only one quarter of participants (n:44; 25.6%) have stated that "in daily life, I put into practice things which I hear or read." Ninety one of participants (52.9%) stated that "I just read", thirteen (7.6%) of them said that "I am usually not aware of this kind of news", twenty four (14%) of them said that "I see but I am not interested in".

FINDINGS

First question related to research issue was close-ended definition of renewable energy. When we looked at the given answers related to the definition of renewable energy, correct alternative was marked by 112 (65.1%) students, while thirteen students (7.6%) stated having no idea because they did not hear about it before. Twenty seven students (25.7%) marked as harmless energy and ten students (5.8%) chose the definition of lasting energy meaning it is available in huge amounts in nature so it is unlikely to deplete it. Three students (1.7%) gave different definitions (Figure 1).

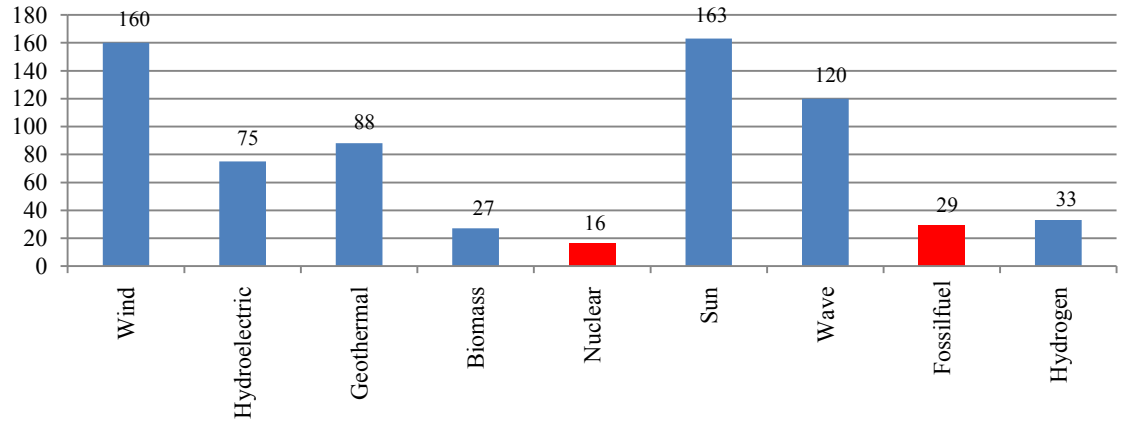


*The labeled blue column shows the correct answer.

Figure 1: Answers given to the question of "Which is the correct definition of renewable energy?"

There were no significant differences in relation to P/D, whether or not students took course and whether or not students pay attention to news. There was a significant difference in relation to students read any book about environment ($p < .05$).

Next question was "choose from the following energy types which are the renewable". When we looked at the frequencies, the most marked energy types were respectively solar (n:164), wind (n:161), wave (n:120) and geothermal (n:89) energy. The least known forms of energy were biomass (n:27) and hydrogen (n:33). On the other hand, nuclear energy (n:16) and fossil fuels (n:29) have been known incorrectly as renewable by some students (Figure 2).



* The labeled red columns show the false answers.

Figure 2: Answers given to the question of "Which energy types are renewable?"

Following this question, there was a list including the names of some energy resources that are used and unused as renewable. Considering the responses, the best known renewable energy resources were solar, wind, hot air stream and rivers respectively similar with the answers of the previous question (Figure 3).

The description of Kyoto protocol, an international agreement linked to the United Nations Framework Convention on Global Climate Change, was asked in order to learn whether the students know it or not. Approximately half of them (42.77%) chose the option "I have never heard it before." Only 4.22% of students

chose the option "I know and I can define correctly" (Figure 4). 31.93% of them had heard it before, but stated that they did not have any idea about what it was. There was a significant difference between whether they studied any subject before on environment or not. In terms of studied subject, there was a significant difference between EHP and FTRP, MSDP, FAEP, MLTP. Based on whether they take notice of the warnings, there was a significant difference between the students who marked "I do not usually take notice" option and students who marked "I put into practice things I read or hear" option ($p < .05$).

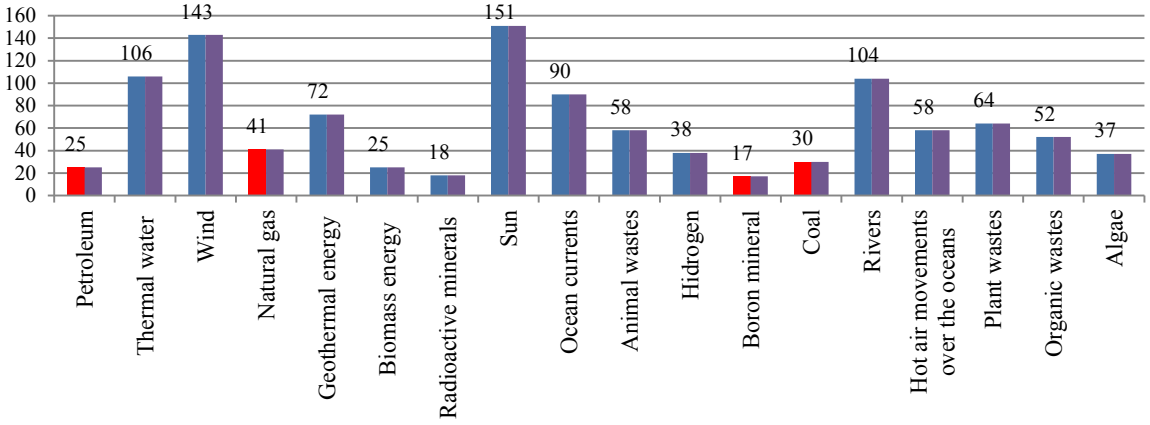


Figure 3: Answers of the question of "in your opinion: which are the products that used to be renewable energy resources the following list?"

There was no significant difference regarding whether they read any book or not ($p > .05$).

Second question in relation to the Kyoto protocol was "Is our country a member of the Kyoto protocol?" 60.82% of the students marked the option "I have no idea". This result is in parallel to the answers of previous question.

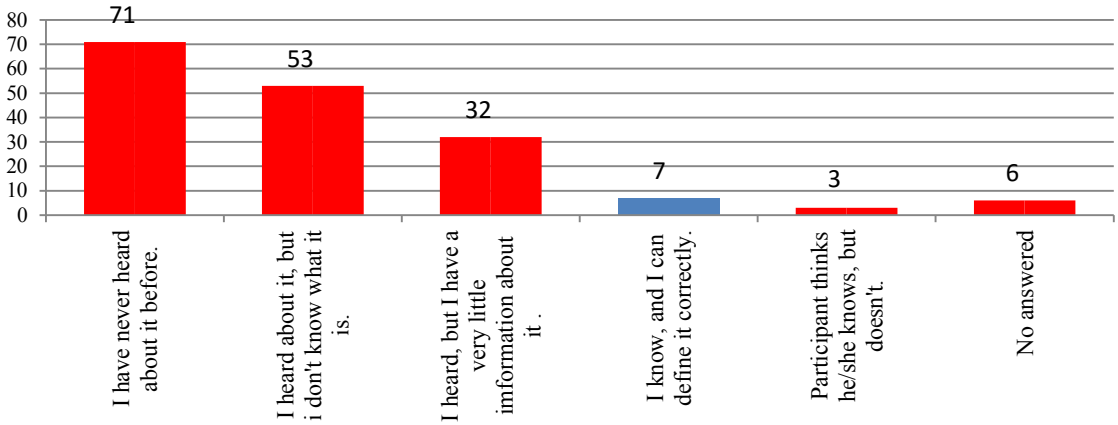


Figure 4: Answers given to the question of "What does it come to your mind when the Kyoto Protocol mentioned?"

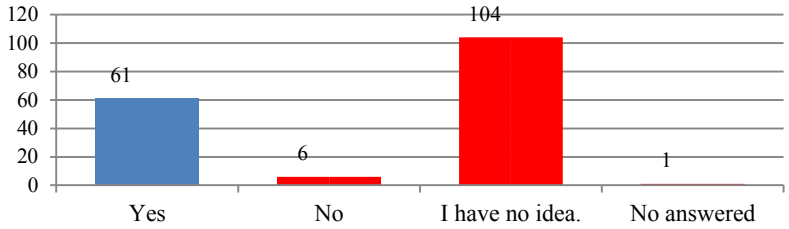
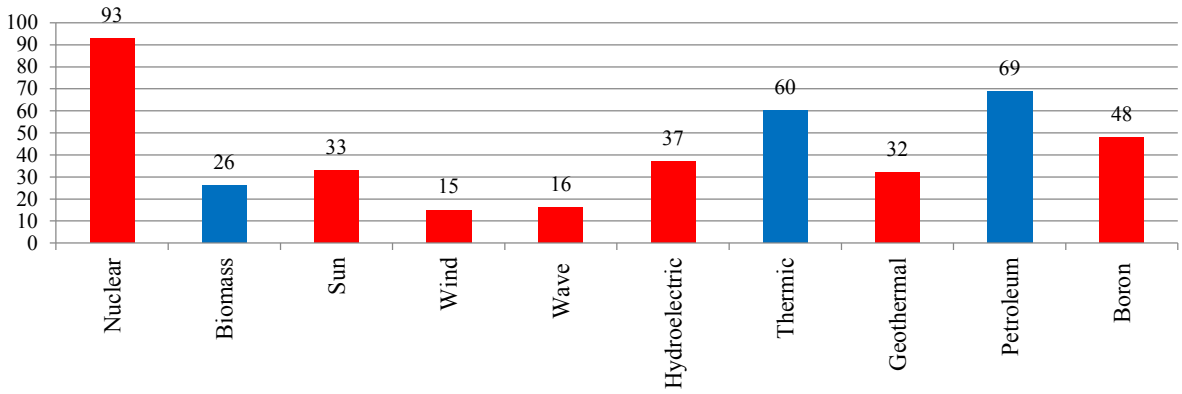


Figure 5: Answer given to the question of "Is Turkey a member of the Kyoto Protocol?

One third (35.67%) participants know that Turkey is a member of the Kyoto protocol, and marked correct option (Figure 5). In terms of subject studied, there was a significant difference between EHP and FTRP, MSDP, FAEP, DP. Also there was a significant difference in relation to whether they studied any subject about environment before or not, whether they read any book about environment or not, and taking notice of warnings, between who marked the option of 'I do not usually realize' and who marked other options ($p < .05$).

By giving the names of some energy resources and energy types in 6th question, it was asked "which does cause to the greenhouse gas emission?". When the answers were evaluated, it was seen that students had false information about the emission of fuels. The number of students who knew that greenhouse gas emission is caused by carbon-based fuels such as biomass, oil and thermal energy was very low. Many of students had a wrong thoughts of which fuels such as nuclear (n:93), boron (n:48), hydroelectric energy (n:37), sun (n:33), etc. cause the greenhouse gas emission (Figure 6).



** The labeled red columns show the false answers.*

Figure 6: Answers of the question of "Which following fuels or energy types are the causes of the greenhouse gas emission?"

The final question was open-ended, and students were asked to define some key concepts such as emission, energy agriculture (enagri), alternative energy, green-energy and solar cell related to renewable energy and environment. When the answers were examined, it was seen that most of the students did not answer the concepts especially enagri, green energy and emission. Also, most of the answers were wrong. The most frequent correctly defined concept was "Alternative Energy" (Figure 7). There was only a significant difference in relation to the definition of solar cell in favor of who read a book ($p < .05$).

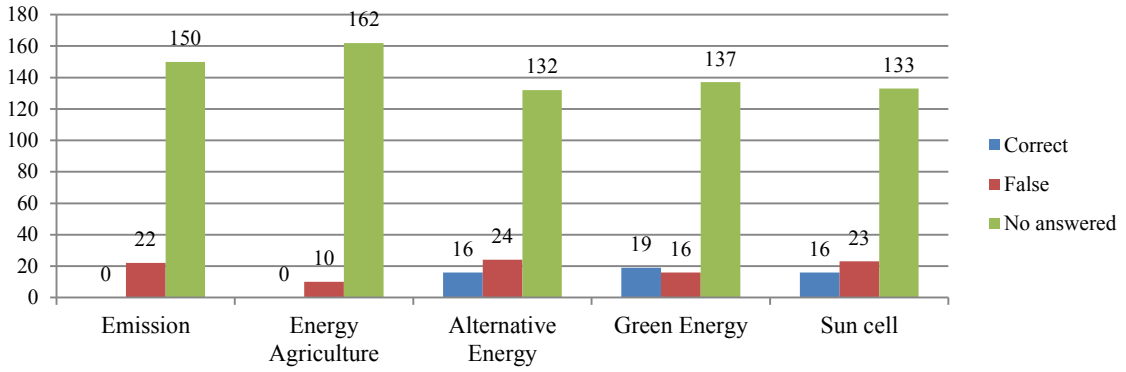


Figure 7: Shows the defining distributions of some key concepts related to energy and environment.

CONCLUSIONS

An ecosystem is a natural system consisting of all plants, animals and microorganisms (biotic factors) in an area functioning together with all the non-living physical (abiotic) factors of the environment (Christopherson, 1997). While creatures are shaped by the physical and chemical conditions of the ecosystem, they affect and change the conditions of their environment. Considering the energy needs and energy utilization of humankind, reducing the occurrence of pollution due to energy production from fossil fuels will contribute to the protection of environment. Increasing the knowledge level of consumers about environment and renewable energy is one of the important factors.

According to the results of this study, it was determined that students did not have sufficient knowledge about what renewable energy was, which resources in nature could be used as a source of renewable energy, and about the topics like which energy resource during the energy producing process could cause greenhouse effect. Furthermore, they had wrong information. One of the most important reason of this situation is environmental issues are not adequately integrated at the primary and secondary education level in our country. When the contents of science and social subjects related to environment at the primary and secondary school levels were observed, it was seen that such topics about the importance of energy resources and renewable energy in the biology, chemistry and geography lessons are very short (usually 1-2 hours) (MEB, 2005 and MEB, 2013).

Sun, wind, geothermal and rivers have been stated to be the most known renewable energy resources. The reason for this, they are frequently encountered around us. On the other hand, petrol (4.5%), natural gas (23.8%), boron (10%) and coal (17.4%) were marked as renewable energy resource by the students who had wrong information about these fuels.

It was observed that only 4% of the students knew about the Kyoto Protocol which was constituted in the aim of taking precautions against the threat of global warming that the earth will face near future, 41% of the students did not hear about it and other 50% of the students did not have sufficient and right information. Yılmaz, et al. (2002), reported that education provided about environment is insufficient, and especially students studied chemistry at the secondary school have a bit more information about the topic. These statements are in accordance with our findings and support our results. On the other hand, when the curriculums of the Ministry of National Education (MNE) were investigated, it was observed that the Kyoto Protocol was not included in the year 2013 (MEB, 2013) and it was only one hour subject in the 10th year chemistry syllabus(MEB, 2005) and the students gain their knowledge about environment through printed or visual media. Also, most of the students (64%) didn't know that Turkey is a member of the Kyoto Protocol. This topic has been situated in the last lesson of the 12th grade course of The Contemporary History of Turkey and World in 2008 (MEB 2008). Students, if do not study in relation to environment or in the area of environment, they do not get sufficient education about environment (Çabuk & Karacaoğlu, 2003). In this study, the answers given by the students studying at the EHP in relation to the environment were significantly

different comparing to the answers of students studying at the FTRP, MSDP, FAEP, DP programs which do not include subjects related to environment.

The students were given a list of several names of energy resources used at present and were asked which ones were likely to cause to greenhouse gas emission, and majority of the answers were wrong. It was observed that most of the participants had misinformation about nuclear, boron, hydroelectric, geothermal, wind, and the sun which are not the cause of greenhouse gas emission. Topics related to energy resources, are available in the biology and physics subjects at 9th grade, and more widely in the chemistry subject syllabus of 10th grade (MEB, 2013). But, according to the secondary school education curriculum structure, students, except ones studying in science and math area, there is no the lessons which are physics, chemistry and biology in curriculum of the social sciences departments later than 9th grade. Also, because of the topics being not linked between the subjects, it can lead to the insufficient learning or wrong-learning of students. In the literature, a strong attitude towards environment is associated with the education provided at school (Kumar & Patil, 2007 as cited in Tunç, et al. 2012).

In an open-ended question in the survey, the participants were asked to define some terms related to renewable energy such as emission, alternative energy, green energy, and solar cell. It was observed that 70-80% of the participants did not answer. The best known terms by the students were green energy (11%), alternative energy (9.3%) and solar cell (9.3%). It was notable that these terms were defined correctly by in small numbers of the students and these were mostly EHP students (green energy 9/19; alternative energy 8/16; sun cell 10/16). The reason of low correct answer numbers of 8-10 out of 41 EHP students is likely because the environmental ethics subject is thought in the first term of first year and the questionnaire was performed at the beginning of the first term; therefore the EHP students had not studied their major subjects. But, there are also some students coming from the environmental health division from high schools of health sciences thus this difference arises from the students who studied subjects related to environment at the high school level.

When we evaluate the data and consider the global needs, in my opinion it is beneficial to provide more hours of education about renewable energy topic in the curriculums of MNE for high schools. The content of topics should be revised according to present circumstances and during the university education, elective subjects about environment, energy and energy resources should be available. Encouraging students to take these subjects may help to make public aware of these issues.

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Determining The Cognitive Structure Of Students In Faculty Of Education Regarding The Concept "*Academician*"

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ABSTRACT
Universities are among educational institutions which raise human resources having the international qualifications needed by the country, are capable of carrying out research – development and regeneration in line with international standards and produce science and technology. From this aspect, universities play vital roles in both community development and the development of a country. The most important part of the universities, though, is comprised of academicians. Academicians have many duties such as responding to the needs of the constantly changing student profile, increased competitiveness, research and development studies, teaching through modern teaching methods, project design, community services and social responsibility. In this study, it is aimed to reveal the cognitive structures of students studying in the Faculties of Education regarding the concept of 'academician'. This study was carried out on a total of 60 candidate teachers studying at the Department of Primary Education in the Faculty of Education, Siirt University during 2014-2015 academic year. The qualitative research approach was used in this study. Data were collected by utilizing a 'Word Association Test'. The data obtained were organized and frequency values were calculated. As results of the research, it was determined that the cognitive structures of students studying in the Faculties of Education regarding the concept of 'academician' appear to be under three categories. These categories are academician's individual characteristics, academician's area of duties and academician's area of responsibility respectively.

Keywords: academician, education, university, higher education

INTRODUCTION
One of the most prominent institutions of today's information society is the universities. Universities are institutions that train elite staff by providing high level of education and training, do scientific and technological research, present research results for the benefit of society, and serve social and economic development (Erdem, 2013). In other words, universities are among educational institutions which raise human resources having the international qualifications needed by the country, are capable of carrying out research – development and regeneration in line with international standards and produce science and technology. From this aspect, universities play vital roles in both community development and the development of a country. The most important part of the universities, though, is comprised of academicians. The concepts *academician* and/or *academic* trace back to "*Akademeia*" founded by Plato. Akademia, however, traces back to *Akademos*, a sacred grove of olive trees in Athens, bought by Plato to teach students there (Erdem, 2008). When the literature related to the concept of 'academician' is examined, it is observed that the concept of 'academician' is often associated with academic activities. Accordingly, being an academician is described as teaching, discovery, integration, practices and clear objectives, adequate preparation, appropriate methods, significant results, effective presentations and characteristics which have been criticized in a detailed way (CCPH, 2005). Wikipedia defines "academic as a person who works as a teacher or researcher at a university or other higher education institution, does research studies and contributes to the literature by means of his/her original research". (www.wikipedia.org).

Ozturk (2008) purports that 'being an academician' means a creative and explorer person to carry out scientific research and produce new information. Boyner (1990) enumerates four different activities of the academics, namely the discovery of information, integration of the information, application of the information and teaching. Hattie and Marsh (2002), however, consider teaching, research, management and social service as the main activities of the academicians. Even though discussions about the concept of 'academician' and the fundamental dynamics that feed this concept go back a long way, the dilemma whether academicians should be teaching-oriented and/or research-oriented remains to be actual today (Odabasi,

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Fırat, İzmir, Çankaya and Mısırlı, 2010). Student profiles constantly changing in 21st century, meeting their needs, research and development studies, project design, teaching through modern teaching methods and techniques, community service practices and their social responsibility also result in constant change in the duties of the academicians. According to this, the academicians have to make young generations acquire academic capabilities required by the age, provide intellectual guidance and explore students' skills and offer development opportunities accordingly.

Together with a developing and changing world, the level of education is rising day by day. University graduates do not find undergraduate level sufficient only, and they are willing to have a master's degree in education. However, most undergraduate and graduate students would like to be an academician. Considering the last 35 years, it is reported that the number of universities increased to 176 in 2014, while it was 27 in 1982. The number of students which was roughly 282000 once reached to approximately 5,5 million, and the number of the academicians, once 22000, increased to 140000 in 2014 (Cetinsaya, 2014). Accordingly, it can be said that the number of academicians have increased each passing day and will also increase in the future. This context brings the question of the quality and quantity of academics front.

Academician is not only a person who teaches but also a person who shows learners how to obtain and develop knowledge and where to use it theoretically and practically, and a person who provides guidance to enable learners acquire the ability of this process. Ozturk (2008) states that the academicians are also research assistants and have responsibilities to carry out research. Meanwhile, there also exists a dimension of social service of the academicians. Academicians inform the public by organizing various seminars on the subjects they are experts. They inform the society by means of various media such as columns they wrote in newspapers, radio and television programs they broadcast, and article they wrote on the internet (Odabasi & Odabasi, 2007). Therefore, it will not be correct to consider academician as a distinct profession or a title itself.

According to this, revealing the cognitive structures of the students who thinks being an academician as their career in the future regarding the concept of 'academician' may be important to comprehend and know the concepts correctly. Concepts and propositions related to the relationships between concepts in individuals' minds constitute an information network or an information structure. Concepts are the basic elements of this information network. According to the constructivist learning theory, information is constructed in mind by the individual who actively uses his/her prior knowledge and previous experiences to make connections (Anderson 1992; Ausubel et al. 1978; Bodnar, 1986).

According to this theory, the cognitive structures present in mind affect new cognitive structures to be created and individuals' perceptions of new events because of the associations made with previous experiences. In this case, if students themselves are provided their cognitive structures, then it will provide them with an opportunity to think about alternative concepts they have already had and compare prior knowledge organization to a new one. Gilbert, Boulter and Rutherford (1998) state that it is very difficult to describe cognitive structures of the individuals, but it is highly crucial to reveal cognitive structures by means of key concepts. There are many methods and techniques to reveal the cognitive structures. One of them is the word association test.

Word association test is a technique developed to reveal associations people have between concepts. According to Ausubel, meaningful learning occurs when new information is associated with pre-existing concepts in the cognitive structure of the learner (Ausubel 1968). Understanding, however, is determined by the nature and number of the associations a person construct between information elements. In other words, because understanding is in proportion to the type and number of the associations a person establishes utilizing a single word, the number and variety of words the students associate with a word they are given as a stimulus provide information about their cognitive structures. Word association test is one of the alternative assessment techniques which enables us to reveal students' cognitive structures and the associations between the concepts, i.e. information network, and determine whether associations between concepts in long-term memory is sufficient or significant (Bahar, Johnston and Sutcliffe, 1999).

When the literature is examined, it is observed that there exist many studies utilizing word association tests. Bahar and Özatli (2003) studied the cognitive structures of high school students regading the basic components of living beings by utilizing word association method. Ercan and Taşdere (2010) studied the cognitive structures and conceptual change through word association test. Isik, Taşdere and Goz (2011)

examined the cognitive structures of prospective teachers regarding Ataturk's principles by means of word association test. Köseoğlu and Bayir (2011) analyzed the cognitive structures of candidate chemistry teachers concerning the gravimetric analysis by using word association test method. Kurt, Ekici and Aksu (2013) studied and revealed the mental models of teacher candidates regarding the concept of '*salt*'. Word association tests are used for many different purposes, such as to reveal the cognitive structure, to identify misconceptions, to investigate conceptual change and to mental modeling.

Purpose of the Study

This research aims to reveal the cognitive structures of students studying in the Faculty of Education regarding the concept of 'academician' by making use of a word association test.

METHODOLGY

This is a qualitative study and according to Yıldırım and Şimşek (2005), qualitative studies are research methods that use observations, interviews and document reviews as data collection instruments, and supplies realistic and complete analyses of situations and events.

Study Group

The study group consists of 60 student teachers that enrolled Siirt University Education Faculty in 2014-2015 education year.

Data Collection

Independence word association test related to "*academician*" concept is used for the study. The data related to student teachers' cognitive structures are collected by this test.

Word Association Test: is one of the mostly appropriate techniques that used to identify individuals cognitive structures related to concepts, and the connections between concepts, that is, analyze knowledge network, whether the relations between concepts are sufficient or not in their long term memories (as cited in Kurt and Ekici, 2013). Participants, elementary department student teachers, completed independent word association test for "academician" concept. This technique is based on the assumption that answering with related stimulating word by not limiting the ideas bringing to mind that is independently (Atasoy, 2004; Bahar, and Özatlı, 2003; as cited in Kurt, Ekici, and Aksu, 2013).

Stimulating Word: Academician

Academician-1 : ……

Academician-2 : ……

Academician-3 : ……

Academician-4 : ……

Academician-5 : ……

Sentence: ……

As demonstrated above, word association test consists of two parts.

First Part; In a given limited time, participants write the terms related to academician concepts coming from their minds. 20 seconds is given to participants to complete 5 terms for "academician" during the test.

Second Part; In a given limited time, participants write a sentence related to key words. Again, 20 seconds is given to participants to write a sentence by using key terms in first part. During the analysis, each sentence is read and examined.

Data Analysis

Content analysis technique is used for data analysis. First of all, participants' were labeled from S1 to S60. The basic purpose of content analysis is to reach concepts and relations that explain the data (Yıldırım and Şimşek, 2005). The answers of the student teachers of word association test are analyzed by using number of words, number of answers and semantic relations technique. The words with the same meanings classified

in mostly repeated words. Irrelevant with subject and other words or totally irrelevant words and used only one time are removed from the study (as cited in Kurt, Ekici and Aksu, 2013).

To increase the validity of the study, a literature search related to word association tests were done and expert opinions were taken into account. Additionally, coding procedure of the data and the data analysis process are explained in detail. Teacher students' participated the study voluntarily here it is aimed to them to reflect their opinions totally. To increase the reliability of the study, direct quotations are taken for the categories. Additionally, two researchers' categories and codes are compared with each other to see whether each word represent the same category or not. Two biology experts coded and categorized the data independently and then researchers give the final shape to the codes and categories by using their own opinions.

FINDINGS

At the end of the data analysis procedure of the word association test of student teachers from elementary department about their cognitive structures related to academician concept, 3 categories are determined by using the words. These categories and the words in each category are presented in table-1.

Table-1. The Distribution of Cognitive Structures of Student Teachers Related to "Academician" Concept

Category	Concepts in the Category	Frequency	Total Frequency
Individual Properties of Academician	Knowledgeable	26	**83**
	Guide	10	
	Teaching	8	
	Successful	6	
	Experienced	5	
	Equipped	5	
	Hard worker	3	
	Suggestive	2	
	Discipline	2	
	Freedom	2	
	Creative	2	
	Researcher	2	
	Oppressive	2	
	Unlearned	2	
	Incomprehensible	2	
	Authoritarian	2	
	Backing	2	
Profession Area of Academician	Lecturer/Instructor	13	**60**
	Teacher	10	
	Research Assistant	7	
	Master	6	
	Dean	4	
	Educationist	4	
	Expert	4	
	Professor	3	
	Rector	3	
	Associate Professor	2	
	Assistant Professor	2	
	Administered	2	
Responsibility Area of Academician	University	18	**54**
	Career	8	
	Student	8	
	Education	4	
	Training	4	
	Research	2	
	Lesson	2	
	Professional title	2	
	High Level Knowledge	2	
	Higher Education	2	
	Time	2	

Student teachers derived 241 words for the "*academician*" concept during the study. However, some of them are removed from the study as described in Kurt (2013), because of irrelevance with subject and other words or totally irrelevant words and used only one time. So three categories are designed for academician concept as represented in table-1 at the end of the data analysis process. These categories are "*individual properties of academician*", "*profession area of academician*", and "*responsibility area of academician*". Totally 199 words are used to describe these categories.

The first category, "*individual properties of academician*", is a category that has a biggest frequency (f=83). In this category, while most of the participant focused on positive properties of academicians like "*knowledgeable*", "*guide*", "*teaching*", "*successful*", "*experienced*", "*equipped*", "*hard worker*", "*suggestive*",

"*discipline*", "*freedom*", "*creative*", and "*researcher*", some of them are focused on negative properties like "*oppressive*", "*unlearned*", "*incomprehensible*", "*authoritarian*", and "*backing*". The removed words, so that used only one time, are "*tolerance*", "*well disciplined*", "*elite*", "*model*", and "*responsible*". In this category, some sentences constructed by student teachers are listed as following:

> "*Academician is a person that performs scientific researchers and give answers with experienced and self-confidence*" S2.
>
> "*Person which gives knowledge and direction to individuals' development in a university*" S3.
>
> "*Academician is a researcher that guides students and improves him/her selves at the same time*" S5
>
> "*In general, unlearned people that settling down to work with backing and devoicing democratizations in higher education institution*" S7.
>
> "*At the end of the long years, a person gains experience and knowledge, and reaches freedom*" S8.

"*Profession area of academician*" is determined as the second category of this study (f=60). This category, includes the words; "*lecturer/instructor*", "*teacher*", "*research assistant*", "*master*", "*dean*", "*educationist*", "*expert*", "*professor*", "*rector*", "*associate professor*", "*assistant professor*", and "*administered*". Student teachers are focused on professional title and work of academicians. The removed words, so that used only one time, are "*assistant*", "*presentation*", "*PhD*", "*thesis*" and "*article*". In this category, some sentences constructed by student teachers are listed as following:

> "*A teacher that is helping us to have high level knowledge and that improve himself*" S1.
>
> "*Communities that creates techniques to teach knowledge and skills to students as a source*" S23.
>
> "*Students graduated from universities, can work as an academician in universities after passing some exams like ALES*" S24.
>
> "*An authoritarian and disciplined instructor forces students in lesson*" S27.
>
> "*A university teacher that have special education*" S29.
>
> "*In universities and high education institutions, a person that researches and making academic studies having some titles like assistant professor, associate professor*" S42.

"*Responsibility area of academician*" is categorized as the third category of this research (f=54). This category, includes the words; "*university*", "*career*", "*student*", "*education*", "*training*", "*research*", "*lesson*", "*professional title*", "*high level knowledge*", "*higher education*" and "*time*". The removed words, so that used only one time, are "*institution*", "*source*" and "*community*". In this category, some sentences constructed by student teachers are listed as following:

> "*Academician prepares presentations and thesis in academic level in universities*" S4.
>
> "*Academicians should be more knowledgeable and have higher positions*" S17.
>
> "*Visionary people that aims success and working in this way in life*" S54.

DISCUSSION, RESULTS AND SUGGESTIONS

This study is conducted for the aim of the determination of cognitive structure by using the concepts related to "academician" concept of student teachers in education faculty. At the end of the study, it is found that there are three categories of cognitive structures related to academician concept. These are; "*individual properties of academician*", "*profession area of academician*", and "*responsibility area of academician*". Totally 40 different words and totally 199 answers were obtained from word association test used for the study. The "individual properties of academician" category is found as the category that has biggest frequency value and the most concentrated cognitive structure of teacher students. In this category, while most of the participant focused on positive properties of academicians like "*knowledgeable*", "*guide*", "*teaching*", "*successful*", "*experienced*", "*equipped*", "*hard worker*", "*suggestive*", "*discipline*", "*freedom*", "*creative*" and "*researcher*", some of them are focused on negative properties like "*oppressive*", "*unlearned*", "*incomprehensible*", "*authoritarian*", and "*backing*". So it is found that student teachers have positive and negative associations about academician concept.

This means, student teachers not only think positive dimensions of academicians' individual properties but also they think the negative properties of academicians in their minds and cognitive structures. Academicians are working in the highest positions of the universities. They have some positive properties that like successful, equipped, hard worker and guide. These properties are considered as to be a model by teacher students. Academicians should be careful in their attitudes and behaviors to construct correct definition in the students' minds. Polat, Apak and Akdağ (2013) states that students, in elementary teachers departments are developing positive and negative imageries for academician concept. In another study, Demirtaş and Çoban (2014) states that students are creating negative metaphors for teaching staffs in the universities especially for authority theme.

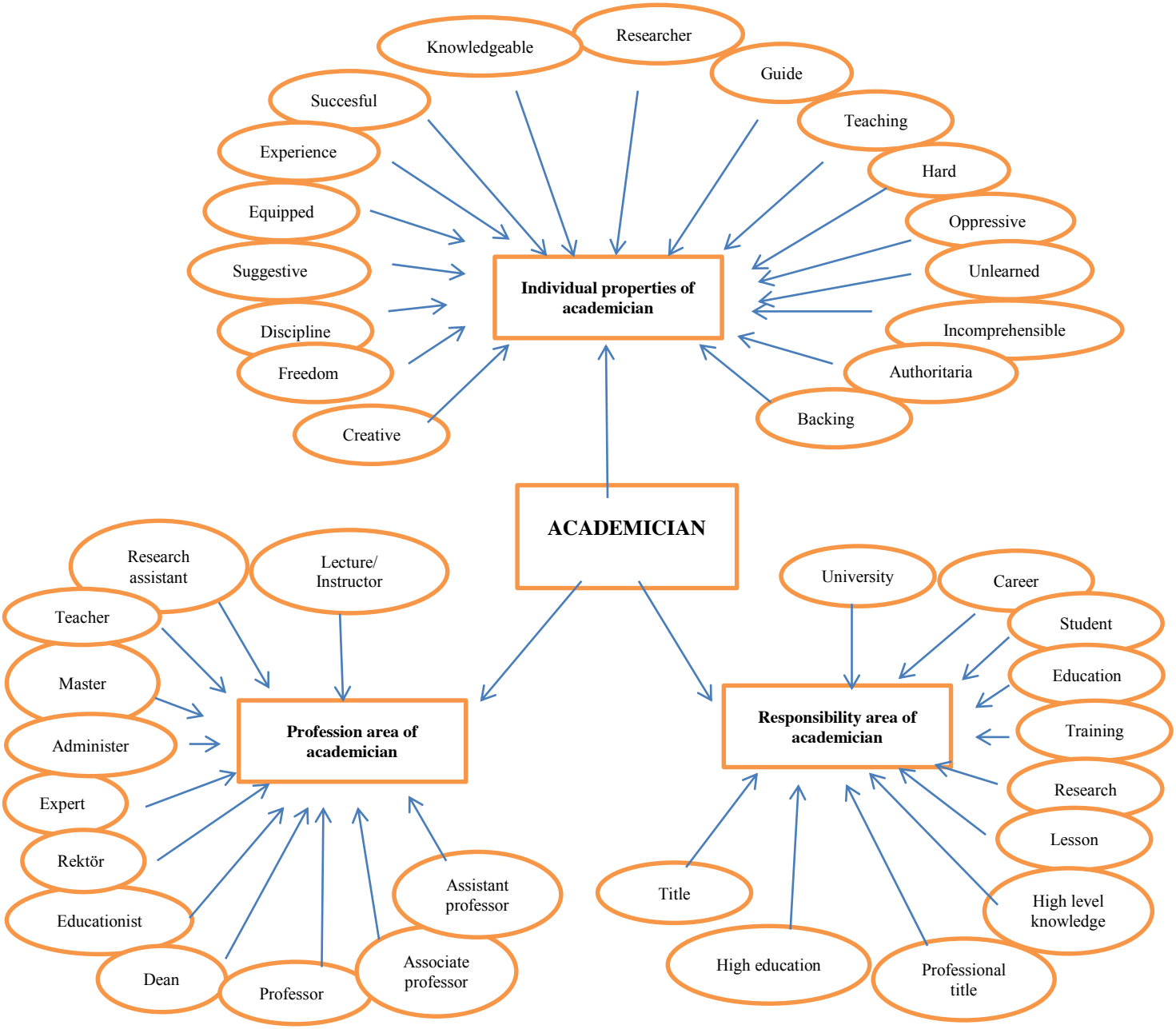

Figure-1: Cognitive Structures of Education Faculty Students about Academician Concept

Student teachers determined academician in "*profession area*" by using the words; "*lecturer/instructor*", "*teacher*", "*research assistant*", "*master*", "*dean*", "*professor*", "*rector*", "*associate professor*", and "*administered*". According to this category, It can be said that student teachers constructs academician concept in mind by using the words including academic titles or their professional area. Due to rule with numbered 2914 and 3. item of it in higher education institution (YÖK) law, teaching staff is categorized in three in universities. These are instructors, lecturers and co-lecturers. Professors, associate professors and assistant professors are the parts of instructors. Lecturers are the second classified part. Research assistants and experts are the third category of this classification (Higher Education Personal Law, YÖK, 1983). In the study, student teachers are mostly associate academician with lecturer/instructor. Additionally, Öztürk (2008) states that the term of instructor, that has the right to vote in rector selections and PhD degree, is missing for the academician concept. Academicians have a responsible and valuable profession in society. Akademisyenlik meslek itibariyle toplumda saygın ve değerli bir yere sahiptir. It requires continuous productivity. This situation requires observation, research, investigations and discovery. And also academicians must improve their knowledge each day to reach current information. So association with only title and professional area may not be sufficient and correct. In this category, student teachers secondly associate academician concept with "teacher". Odabaşı, Fırat, İzmirli, Çankaya ve Mısırlı (2010) states that the basic professions of academicians are being teachers and improve students' knowledge, mind, character and skills. Student teachers associate academician concept in "*responsibility area of academicians*" by using the words; *university, career, student, education, training, and professional title*. This shows that student teachers have some alternative conceptions related to academician concept. It can be said that they associate this term with their responsibilities. Polat, Apak and Akdağ (2013) states that while students are explaining academician term, they are imaging the most powerful dimensions of academicians and students reflect the most powerful dimensions. According to Büken (2006) describe academicians as a people that have extensive knowledge, cultured, broad horizon, create communities developing dynamics, and brain team of the society. Additionally, Büken defines three basic role of academicians as education and training, scientific research and provide community awareness on geography. While student teachers associate academician term with education, training and students, they are not associated it with scientist and serving society dimensions. Öztürk (2008) describe the priority of academicians as performing scientific researches. Odabaşı, Fırat, İzmirli, Çankaya and Mısırlı (2010) states that academicians benefit society with community service missions. Academicians are valuable people that inform and enlighten the community with their roles in society (Büken, 2006). Academician concept is a multi-dimensional term that includes education and training dimension, research and knowledge dimension, inform society and solve problems dimensions. So, associating academician concept as a job is not right and appropriate.

As a result of this study, student teachers' academician concept should be constructed and examined in a correct way in cognitive structures. Insufficiency of academician concept in cognitive structure may cause negative behaviors towards academicians during university life and negatively respecting them after university. So the number of the studies related to academician concept should be increased. The researchers should design new studies with extensive and different samples and by using alternative techniques different from word association test like structured grid, analogy, concept maps, survey and interviews.

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Development Of Communication Skills Of Pre-School Pupils With Speech Disabilities

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ABSTRACT
The authors present outcomes of the preparatory class for pupils with the speech disabilities. It is the unique project in the Slovak republic because it has been running in the common primary school and not in the special primary school as it is recommended. The authors present several positive research findings they have achieved through measuring the pupils language abilities (phonemic awareness and phonologic differentiation) during the running of the preparatory class for pupils with speech disability since 2002. Research is designed as an experiment, using pretest – posttest model, and outcomes are statistically worked out. The outcomes highlight the significantly better communication skills of pupils in the preparatory class for pupils with the speech disability. The paper has been developed as a part of the project Cultural and Educational Agency of the Slovak republic (KEGA) – KEGA 007UKF-4/2013: Development of communication skills of pre-school pupils with speech disabilities.

Key words: communication skills, speech disabilities

INTRODUCTION
Currently, in the field of etiopathogenesis of learning disabilities of pupils, the leading role plays a so-called linguistic theory of its development, which is based on the assumption of weakened linguistic abilities of an individual as a factor affecting school performance (it focuses mainly on awareness of the phonemic structure of words, phonologic differentiation and linguistic sense). We consider the weakening or language skills disorders, in accordance with several authors (in Slovakia mainly V. Lechta, M. Mikulajová), as one of the most decisive factors in the field of development of specific learning disorders of pupils. In case, we accept the reciprocal link between language and learning disorders (LD´s), we should also accept the possibility that if the speech disorder was not present, or less intense, the specific learning disability should not be noticeable. In this case, it might be possible to avoid a development, or at least to reduce the risk or intensity of already developed specific learning disorder by elimination or reduction of speech disorders intensity. V. Lechta (2008) describes the link between learning disorders and language development problems.
W. Simon (1981, p. 76) stated in the early eighties that the reading and writing is the complex function of the speech. According to him, the low achievements in the reading and writing are not the problem in close area. It is necessary to see the relation between low achievements and the speech dimension, which is crucial condition of the reading and writing development.
R. Paul (1995) notes that disrupted speech development influences psychic development of the child and it is the indicator of the school failure, especially in the form of specific learning disabilities and speech disabilities.
M. Mikulajová (2001) considers language skills (language sense, understanding of speech, phonemic skills - especially phonemic awareness) as crucial in reading development. According to the author, it is proved that individuals suffering from broken speech development, aphasia, or learning disabilities, have significantly weakened ability of phonemic awareness. So we may conclude that a systematic training may reduce a risk of speech disorders development, as well as learning difficulties in future.
O. Zelinková (2008) considers speech problems a possible reason of LD´s development. She defines two components of speech: a receptive component (understanding of speech) and an expressive component (expressing, speaking). The author also defines a separate area of auditory perception as a possible source of LD´s. She describes it as a so-called phonemic hearing, which is the ability to discriminate and differentiate

auditory units. She distinguishes two forms of phonemic hearing: phonemic awareness (understanding of syllabic and speech sound structure of words – speech which is presented by letters), phonological awareness (ability to isolate the first and last speech sound of a word, ability to perceive a rhyme, ability to add or omit a part of a word, ability to divide words to syllables).

A speech disorder of children is one of the most frequent disorders which a school psychologist (in primary school) has a contact with in his/her practise. It mainly relates to preschool children who should be trained in the first year of a primary school. It is necessary to put parents wise to this fact because insufficient speech development of children may occur as a significant risk during training. Based on the facts described above, we are interested in possibility to avoid specific learning disabilities, to work in a preventive way, or to eliminate them as much as possible. Therefore, we have chosen the form of a preparatory class for pupils with speech disabilities. It is based on a linguistic theory of development of specific learning disabilities of pupils, inclusive approach to pupils with special educational needs and we also took into consideration current legislation.

In the following text we outline content, applied methods, structures and forms of teaching and a brief history of the preparatory class for pupils with speech disabilities in the primary school.

THE STUDY

Preparatory class for pupils with speech disabilities (hereinafter preparatory class) in the district Hlohovec, Slovakia was founded as initiative of former staff of pedagogical and psychological counseling in Hlohovec in 2001. The aim was to focus children, who have been diagnosed speech disabilities within the school ability diagnosing process, in the preparatory year in order to improve their language skills and thus eliminate a risk of development of specific learning disorders within their future school attendance.

In the current school year, there are three preparatory classes (see Table 1). Class teachers have appropriate education (special pedagogy). The preparatory class has both intervention and diagnostic functions. After completing the preparatory class, pupils with already diagnosed certain level of abilities or identified restrictions or developed abilities and skills, are individually integrated to basic classes. While implementation the preparatory class for pupils with speech disabilities, we follow assumptions described in the introduction of this paper.

Table 1 Count of the pupils and count of classes in Preparatory year for pupils with speech disability in primary school in Hlohovec, Slovakia

School year	Count of pupils	Count of classes
2001/2002	7	1
2002/2003	9	1
2003/2004	15	2
2004/2005	7	1
2005/2006	9	1
2006/2007	12	1
2007/2008	11	1
2008/2009	7	1
2009/2010	8	1
2010/2011	8	1
2011/2012	10	1
2012/2013	19	2
2013/2014	16	2
2014/2015	25	3

The aim of the preparatory class is to develop a weak area of language and cognitive development of pupils, and thus reduce possible manifestations of learning disabilities as much as possible in the future. It is based on assumption that learning disabilities more or less relate to language ability disorders (they influenced them in a negative way) (M. Mikulajová, 2001). It is possible to reduce the occurrence or intensity of learning disorders of pupils in future by elimination of language ability disorders (understanding, sense of language, phonemic awareness), moreover it is possible to decrease their negative impact on academic performance of

pupils.

There are pupils in the preparatory class, who have been diagnosed a speech disability, dysphasia, dyslalia, or verbal dyspraxia. All activities, methods and procedures lead to development of communication skills of students. All learning areas have a language support with the aim to remove or eliminate problems of children. An important part of speech therapy is cooperation with parents, teachers, psychologists and other professionals within the intervention process.

The most preferable way of teaching is via an experience during education process. There is emphasized a focus on language in all activities and thus improve language skills of pupils. The preparatory class is developed in a pleasant atmosphere with a number of stimuli which work in accordance with psychological, special and pedagogical, medical and social areas. Pupils perceive stimuli by multiple senses. The teacher creates a pleasant atmosphere; he/she works with pupils in a sensitive and patient ways, to make the school work as interesting as possible.

Methods and forms alternate according to the needs and abilities of pupils, treatment to each pupil is individual, due to the low number of pupils in the class. Each pupil has an opportunity to demonstrate their knowledge and skills and the teacher is able to appreciate and especially to develop them further. Each pupil works in a different level and a teacher adapts to this system. All education is based on humanistic principles.

To improve the language skills of pupils in preparatory class, we use specific procedures, forms and teaching aids, which are reflected in the school educational program in the education plan and also in the timetable. We focus on the emphasis on the development of communication abilities, especially phonemic awareness. We use the method of Training of phonemic awareness according to D.B. Eľkonin to develop these abilities. We put the emphasis on logopedics care, not only directly, but also secondary, as all activities in most subjects focus on language. They have 10 lessons a week logopedics care. This is so-called logopedics intervention group. Furthermore, pupils have three lessons of the Slovak language, mathematics 3 lessons, 2 lessons of physical education, art education 2 lessons, 1 lesson of music and 1 lesson subject "Nature and me" in a week. Three times a week they have 4 lessons and twice 5 lessons.

The aim of our research was to find out whether the specific methods used for teaching pupils in the preparatory class will improve weak areas of their language skills. If so, we wanted to find out whether the level of the skills is significantly different before and after the completion of the preparatory class, in favor of the state after its completion, which was also the hypothesis of our research. We chose the method of measurement of selected indicator, which we assume to be essential in the field of formation of specific developmental learning disorders. It refers to phonemic differentiation. We applied the method of Phonologic differentiation by Škodová (Slovak modification by Rafajdusová, I. & Sümegiová, Z., 1993) and the method of Auditory distinction according to Wepman-Matějček (Slovak modification by Rafajdusová, I. & Mikulajová, M., 1993) to find out the level of these indicators. We applied these methods individually to all pupils in the preparatory year within the entrance diagnosis. It was carried out during spring and summer months last school year. That year in May and June of the school year, we carried out re-diagnosis using the same methods. The period of time between both diagnoses was approximately 12 – 14 months. The count of the pupils in the preparatory class in primary school in Hlohovec, in school years 2001/2002 to 2013/2014 was 92. We excluded the pupils in the school years 2009/2010 – 2012/2013 and 2014/2015 from the research group because of missing data. Finally, the research sample consisted of 92 pupils in the preparatory class and 30 pupils in the control group.

We used the Wilcoxon test and independent t-test as the statistical methods in the programm SPSS 20.0. We accepted the standard level of significance $\alpha \leq 0.05$.

FINDINGS

Results of the statistical analysis are displayed in the tables 2 – 5.

Table 2 The impact of the intervention on the phonologic differentiation of the pupils in the Preparatory class

school year	PD pretest				PD posttest				Z	p
	N	M	SD	SEM	N	M	SD	SEM		
2001/2002	7	14.29	3.817	1.443	7	19.00	3.606	1.363	2.388	0.017
2002/2003	9	17.67	2.345	0.782	9	21.89	3.180	1.060	2.673	0.008
2003/2004	15	15.67	4.353	1.124	15	19.80	3.610	0.932	3.377	0.008
2004/2005	7	16.57	6.079	2.298	7	19.57	5.593	2.114	2.120	0.034
2005/2006	9	16.22	2.906	0.969	9	21.67	2.739	0.913	2.689	0.007
2006/2007	12	13.42	4.166	1.203	12	17.08	5.213	1.505	3.074	0.002
2007/2008	11	15.64	4.965	1.497	11	19.36	5.045	1.521	2.766	0.006
2008/2009	7	15.14	4.488	1.696	7	19.00	2.646	1.000	2.375	0.018
2013/2014	15	18.80	3.427	0.885	15	20.40	5.974	1.542	1.368	0.171
all	92	16.05	4.275	0.446	92	19.74	4.521	0.471	7.410	<0.001

Legend: N = count; M = mean; SD = standard deviation, SEM = standard error of mean, Z = testing criterion (Wilcoxon test); p = significance; PD = phonologic differentiation test

Table 3 The impact of the intervention on the auditory distinction of the pupils in the Preparatory class

school year	WM pretest				WM posttest				Z	p
	N	M	SD	SEM	N	M	SD	SEM		
2001/2002	7	14.00	2.000	0.756	7	18.43	1.813	0.685	2.388	0.017
2002/2003	9	13.89	1.616	0.539	9	17.00	1.871	0.624	2.701	0.007
2003/2004	15	11.67	2.895	0.747	15	15.33	3.222	0.832	3.437	0.001
2004/2005	7	10.29	3.039	1.149	7	13.71	4.152	1.569	2.375	0.018
2005/2006	9	14.11	2.522	0.841	9	16.33	3.082	1.027	2.699	0.007
2006/2007	12	10.08	3.343	0.965	12	13.08	3.988	1.151	3.089	0.002
2007/2008	11	11.64	3.529	1.064	11	14.64	4.523	1.364	2.956	0.003
2008/2009	7	12.86	3.024	1.143	7	15.71	2.563	0.969	2.388	0.017
2013/2014	15	12.93	4.448	1.148	15	14.47	3.335	0.861	1.263	0.207
all	92	12.28	3.359	0.350	92	15.22	3.545	0.370	7.408	<0.001

Legend: N = count; M = mean; SD = standard deviation, SEM = standard error of mean, Z = testing criterion (Wilcoxon test); p = significance; WM = Wepman-Matějček test

Table 4 The changes of the phonologic differentiation and auditory distinction in the group of the pupils without the intervention

test	pretest				posttest				Z	p
	N	M	SD	SEM	N	M	SD	SEM		
PD	30	15.17	4.069	0.743	30	15.47	4.158	0.759	1.249	0.212
WM	30	11.70	3.064	0.559	30	12.30	3.250	0.593	2.766	0.006

Legend: N = count; M = mean; SD = standard deviation, SEM = standard error of mean, Z = testing criterion (Wilcoxon test); p = significance; PD = phonologic differentiation test; WM = Wepman-Matějček test

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Table 5 The comparisons of the phonologic differentiation and auditory distinction between the groups with and without the intervention

group	PD pretest				t	p	PD posttest				t	p
	N	M	SD	SEM			N	M	SD	SEM		
with intervention	92	16.05	4.275	0.446	1.025	0.310	92	19.74	4.521	0.471	4.581	<0.001
without intervention	30	15.17	4.069	0.743			30	15.47	4.158	0.759		
group	WM pretest				t	p	WM posttest				t	p
	N	M	SD	SEM			N	M	SD	SEM		
with intervention	92	12.28	3.359	0.350	0.842	0.401	92	15.22	3.545	0.370	3.992	<0.001
without intervention	30	11.70	3.064	0.559			30	12.30	3.250	0.593		

Legend: N = count; M = mean; SD = standard deviation, SEM = standard error of mean, t = testing criterion (independent t-test); p = significance; PD = phonologic differentiation test; WM = Wepman-Matějček test

We found out:

- Significant differences in the pretest and posttest situation of the pupils in the preparatory class in the phonologic differentiation in the relation to goal-directed intervention (except the school year 2013/2014). The range of Z-values was from 2.120 to 3.377 and the range of p-values was from 0.034 to 0.002 in particular school years. The value of Z was 7.410 and the value of p was <0.001 in the comparison of of pretest and posttest contex in all school years together (table 2).
- Significant differences in the pretest and posttest situation of the pupils in the preparatory class in the auditory distinction in the relation to goal-directed intervention (except the school year 2013/2014). The range of Z-values was from 2.375 to 3.437 and the range of p-values was from 0.018 to 0.001 in particular school years. The value of Z was 7.408 and the value of p was <0.001 in the comparison of pretest and posttest context in all school years together (table 3).
- Low level of differences in the phonologic differentiation and in the auditory distinction in the control group of the pupils (table 4). Despite of this fact we acquired the significant difference in the auditory distinction of the pupils in the pretest and posttest context (Z = 2.766; p = 0.006).
- The similarity of the experimental group (with intervention) and control group (without intervention) in the phonologic differentiation and in the auditory distinction of the pupils at the beginning of the diagnostics and intervention activity (table 5). The t-value was 1.025, resp. 0.842. The p-value was 0.310, resp. 0.401.
- The differences of the experimental group (with intervention) and control group (without intervention) in the phonologic differentiation and in the auditory distinction of the pupils at the end of the diagnostics and intervention activity (table 5). The t-value was 4.581, resp. 3.992. The p-value was <0.001.

CONCLUSIONS

Comparison of language skills of pupils before and after completing the preparatory class (via Phonologic differentiation method by Škodová and Auditory distinction method by Wepman-Matějček) shows a significant increase in the posttest context (except the school year 2013/2014). It means a significant increase in level of language skills at majority of pupils in the preparatory class. In both diagnostic methods a mean score was higher in 2.5 points. After analyzing the effect of passing a preparatory class for pupils with speech disability in a particular school year 2013/2014, we wonder whether this effect is comparable with the interventions in previous school years (previous analysis showed increase of communication skills). We found that all groups (pretest and posttest) diagnosed by the method of phonologic differentiation by Škodová and method of auditory distinction of Wepman-Matejček are equivalent. We may conclude that children with speech disability are a relatively homogeneous group, which in the case of goal-directed interventions show the progress. Specifically, it is a difference in mean score at 3-5 points (method of phonologic differentiation by Škodová), or 2-4 points (method of auditory distinction of Wepman-Matejček). The maximum of the mean difference in the control group (group without the intervention) was 0.6 of point. The results of our research have confirmed that it is possible to identify preschoolers with problematic development using adequate diagnostic procedures in sufficient time, to eliminate symptoms of speech disorders and the possible manifestations of specific developmental learning disorders and thus to minimize their negative impact on the school performance of pupils.

We have identified several of their positive attributes:

- improvement of language skills, or speech of pupils,
- support of inclusive education of learners who suffered from specific learning disorders,
- connection of the preparatory class with the first year in case that a child keeps attending the same school (special teacher hands in information about individual children to teachers teaching in the first year and thus they have a possibility to discuss learning method/techniques with a special teacher),
- improved adaptation of the child to the school environment (compared to the kindergarten or special school) - the child gets used to the school system (lessons, breaks, canteen, school club, etc.); this may be, in case of exceptional children, more important than in case of intact children,
- respecting of the modern theoretical assumption – development of specific learning disorders may be caused by speech disabilities.

We also consider that the preparatory class for pupils with speech disability in an ordinary primary school is an effective inclusive form, which has a preventive importance in the fields of speech disorders, specific developmental learning disorders, behavioral problems and adaptation of preschoolers to the school environment.

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Digital Games As A Tool For Inclusive Education: A Case Of Study Report

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ABSTRACT
This paper presents an ongoing research project whose main goal is to propose and to develop accessible educational digital games. Participatory Design is the approach we use to involve students – with and without cognitive disabilities - and their teachers during game design and prototyping phases. During the game design phase, we proposed workshops to observe students' behavior while playing existing digital games in order to understand their level of interest and engagement. Workshops' results were registered through forms adapted from The Leuven Involvement Scale for Young Children (LIS – YC) which allowed us to analyze students' concentration, persistency, memory, facial expressions and reasoning level. The study involved 48 students in second grade from two public elementary schools in Santa Catarina, Brazil, including 02 disabled children. Results' analysis have shown high level of children's involvement during the interaction with digital games and the inclusive potential by using this technology as an educational tool; it also pointed out difficulties encountered during gameplay.

INTRODUCTION
Since 2014, our research group works in a project to develop interaction solutions for educational accessible digital games (Alves et al, 2015). We aim to create, develop, adapt and evaluate digital games, based on the concept of universal design and natural interfaces. By using non-conventional interaction devices, we intend to provide accessibility to children with disabilities. Accessibility can be understood as a guarantee for people with disabilities or reduced mobility that they can perform a safe and autonomous use of spaces, furniture, products and information (Alves and Aguiar 2014). Participatory Design (PD) (Rocha e Baranauskas 2000) is the approach adopted to design and develop our digital educational games targeting children with and without disabilities in literacy phase.

As a phase of Participatory Design, digital games workshops were performed in order to identify kids´ interactions with games and their level of interest. Data were colected through videos, notes in a diary and forms adapted from Cathcart (2013). Such records supported initial analyzes to determine what kind of game it will be developed. Using workshops as a participaroty design tool we were able to take in account what children want and what are their expect expectation about the game. Worshops also provided an inclusive experiece for children because all kids, with and without special needs, were able to contribute to game design, turning the workshop moment in a learning event for them all.

This paper analyzes the digital games workshops results, realized during the participatory design process. Thus, in METHODOLOGY is presented the preparation and evaluation workshops´methodology, RESULTS presents data analysis and finally CONCLUSIONS shows our findings during the whole process.

METHODOLOGY
This research adopts a qualitative approach by using a case of studies as analyses tool. Using techniques such as participant observation, field diary, content analysis, qualitative research seeks to understand the universe of meanings, values and attitudes of those involved in the social context observed. (Lüdke and André 1986)

We started with a context of use analysis so we could collect and analyze detailed information about intended users, their work environment, their tasks and constraints. The methodology was field research, which was supported by a questionnaire based on ISO 9241: 11 - Annex A (2002) with open and closed questions that addressed: school´s information, infrastructure, teacher training and involvement of disabled children with analog and digital games.
In each school, we realized interviews with school´s principal and with teachers responsible for specialized services provided to disabled students. Such interviews allowed us to recognize the physical space and infrastructure available for upcoming workshops and to identify the group of students who had the profile required for the project. This profile included children in literacy phase and the presence of at least one student diagnosed with disabilities. We selected students from second year of elementary school.

WORKSHOP PREPARATION

During the workshops preparation we searched for digital games which could help developing higher mental functions delineated by Vygotsky such as: memorization, perception, attention, reasoning and imagination. To address memorization and reasoning abilities we´ve chosen the Simon – Memory Retention Game created by [Genius] and On the Edge created by [Armor Games]. In order to address attention and spatial orientation we´ve chosen the 20,000 Leaks from Kinect Adventures games that uses Microsoft Kinect as interaction device and natural interface as interaction paradigma.

The Simon game is a digital version of an analog game known in Brazil as Genius, very popular in the 1980s (Genius 2014). This game seeks to stimulate memory through repetition of color sequences and sounds. The player must repeat the sequence that the game features, taking in account that a new color is added to the sequence on each turn. The score is the number of sequences reproduced without error. Figure 1 shows the digital Simon game´s main screen.



Figure 1 Simon Game (Genius 2014)

On the Edge game, produced by Armor Games (Armor Games 2014), is a puzzle whose aim is to move a red cube to the red tile, by removing all other white tiles. The game consists of several stages, which grow in complexity and add new elements at each new stage. To achieve each phase´s goal, the player must develop a strategy using logical reasoning and spatial orientation so he won´t let the red cube fall from the white tiles. Figure 2 shows the game On the Edge.

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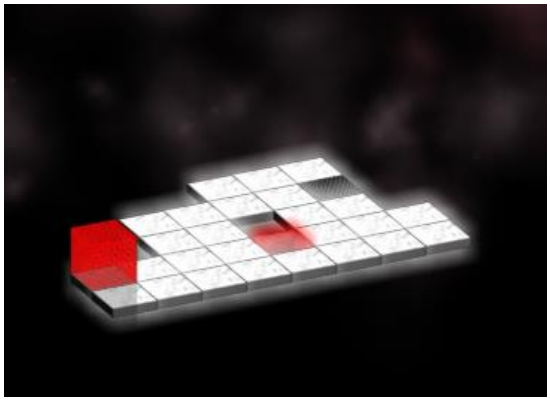

Figure 2 On the Edge Game (Armor Games 2014)

In the 20,000 Leaks game, developed by Microsoft, the player is under the sea, inside a glass case, and need to plug the leaks quickly so the case won´t flood. All sort of sharks, fishes and crabs punch the glass case so it starts crackling and leaking (Kinect Adventures 2015). Figure 3 shows a screen from 2000 Leaks game.

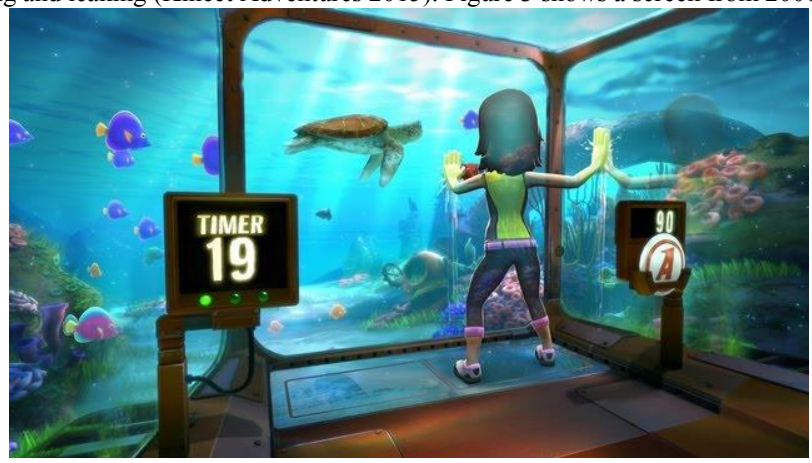

Figure 3 20,000 Leaks Game

Data collection aimed to gather information that will help with subsidies for creating a game that is meaningful to the students involved. Students were observed during gaming activity so we could analyze aspects of their involvement, their motivation to continue facing the challenges, their understanding of the game´s rules and their degree of persistence during game´s phases.

A specific form, shown in Table 1, was developed to register observations during each workshop activity performed by students. Such form was adapted from a prior Child Involvement Scale proposed by (Cathcart 2013) and its use led to a more objective, precise and dynamic observation registering. It also played as a standarization instrument guiding different observers to recognize and to register same aspects during the workshops. Forms were customized based on each game specificities. In order to realize students' level of involvement, behavioral characteristics such as concentration, persistence, facial expression and verbalization are registered during the game.

According to Cruz (2009, p.34-35) the Child Involvement Scale has two components: behavioral involvement indicators and the engagement levels. "Concentration, energy, complexity and creativity, facial expression and posture, persistence, reaction time, language and satisfaction are the child involvement indicators. The five levels of this scale identify the degree of involvement dominant during the observation, from level 1, in which the activity is simple, stereotyped, repetitive and without cognitive demand and the child demonstrates absent and without power until level 5, in which the child, through continued and intense activity, proves to be deeply involved. (...) "

For the Simon game, memorization level was also registered through the student´s highest score. For the On the Edge, reasoning level was registered by the student´s last level achieved. For the 20,000 Leaks, student´s motor coordination and spatial sense were registered as well as the student´s final score. Table 1 shows an On the Edge game observation form example.

Table 1 Observation form to On the Edge game

OBSERVATION FORM - GAME: On the Edge
OBSERVATION: This form must be filled according to the Likert scale levels as the caption: (5-always) (4-almost always) (3-a few times) (2-rarely) (1-ever)
Researcher name: _____ Date: _____/_____/_____.

STUDENT	CONCENTRATION	PERSISTENCY	FACIAL EXPRESSION	REASONING LEVEL	VERBALIZATIONS DURING THE GAME
name					

CONDUCTING WORKSHOPS

We conducted workshops in each school during September and October in 2014. Two student´s groups participated in each workshop: while 1st group played Simon and On the Edge games in a computer laboratory, the other group played 20,000 Leaks with Microsoft Kinect in a different room. The groups were reversed up, so all students had the opportunity to play all three games. At the end of each workshop, researchers, teachers and students gathered in a classroom to collect children impressions through pre-structured interviews. Figure 4 shows a worshop moment.



Figure 4 Workshop at Basic School Gaspar da Costa Morais

RESULTS

The research population

A total of 48 students of the second grade of elementary school participated on the workshops: 23 were from Municipal Primary School Gaspar da Costa Morais- Itajai / SC and 25 were from Municipal Educational Center President Medici-Camboriú / SC. Among them, one of the students with intellectual disabilities and another with autism associated with intellectual disability. For Gaspar school, teachers informed that had nine students with learning disabilities.

Analysis of concentration, persistence, reasoning, memory, motor skills and spatial sense

Data collection followed the level of involvement of students in activities as described in the data collection instruments (Table 1). The persistence level indicates how the student was persistent in the activity, if he/she give up easily or continued trying to accomplish the task. It was observed that the students were persistent

always (48%) or almost always (27%) for the game On the Edge and always (44%) or almost always (23%) to Simon game. For the 20,000 Leaks students were persistent Always (100%). To the On the Edge game children were more persistent when compared to Simon. This was also evidenced by some statements collected during the game Simon: "Teacher, let´s change the game, it´s very difficult ..."; "Hey teacher, when will we exchange games?".

The level of concentration aimed to register how students were engaged in the task without distractions. It was observed that for the game On the Edge students were Always (52%) or Almost always (34%) concentrated, and for Simon they are Always (52%) or Almost always (19%); for 20,000 Leaks the level of concentration was Always (100%). The data shows children involvement during proposed activities.

For the game On the Edge it was measured the level of reasoning to verify up to which stage the students were able to advance, taking in account that as they advanced the stages increased in complexity. The majority (38) was among the phases 3 and 5 and few (10) advanced from 6 to 10. There was a great difficulty in passing phase 3, however when they could do it, they advanced more easily throught the next phases.

Similar analysis was made with respect to the game Simon, for which it was recorded the maximum number of repetitions of the sequence of colors and sounds. Among all students, 8 were able to save 4-5 colors, 15 memorized 6 colors and 10 memorized over 6 colors.

For a more accurate analysis, we chose to make a correlation between the different variables in order to observe whether there is an approximation between them. Correlated to the game On the Edge the persistence level with the level of reasoning (maximum number of phases played). To make up this analysis, we calculated the average level reasoning grouped by level of persistence as observed in the graph of Figure 5. Thus, it appears that on average students who rarely persisted up 4 layers , who sometimes persisted able to play on average 4.33 phases, which almost always persisted, 4.08 phases and that persisted when played on average 5.17 phases. Analyzing the data, we can see little difference in the average performance of students due to the observed persistence.

This chart also highlights the behaviors, attitudes and performance of disabled students. The intention was to highlight, not in a discriminatory manner, on the contrary, the performance of those students involved in research in the context of a regular classroom. Thus, the graph of Figure 5 shows in orange and gray circles the absolute values observed for A1 students (diagnosed with Autism associated with Intellectual Disabilities) and A2 (diagnosed with Intellectual Disabilities) regarding the reasoning level at On the Edge game. Considering the standard deviation of 1.15 to the average of that persisted a few times and 1.88 for those who always persisted, the data show that disabled students were able to participate in the activity together with others, obtaining similar results to colleagues.

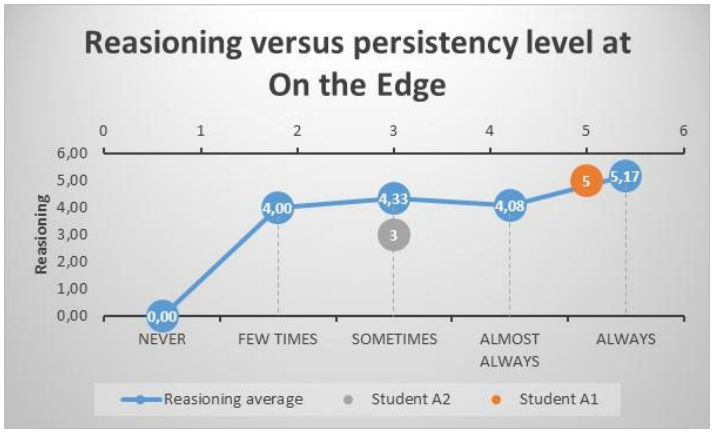

Figure 5 Reasoning versus Persistency level at On the Edge

Similarly, we evaluated the preset level in the game Simon, registered with the maximum number of colors stored in relation to the observed level of persistence. It is observed in the graph of Figure 6 the overall average color sequence memorized for each value observed in the Likert scale and persistence of the students on task. Unlike the game On the Edge it was observed that some students never persisted dropped easy task, nevertheless had on average store a sequence of four colors. For those few that persisted was 5.25 times the average of preset colors, that persisted sometimes reached on average 4.55 preset colors, which almost always persisted, 5.18 colors and that persisted always memorized on average 6 colors. You can not say that in this case persistence was directly related to the preset sequence, it was observed that students had difficulty understanding the game and also not very fond of playing it. Again at this chart, we highlight the results of students A1 and A2. The standard deviation for the average of that persisted rarely was 1.48 and for those who always persisted, 1.69.

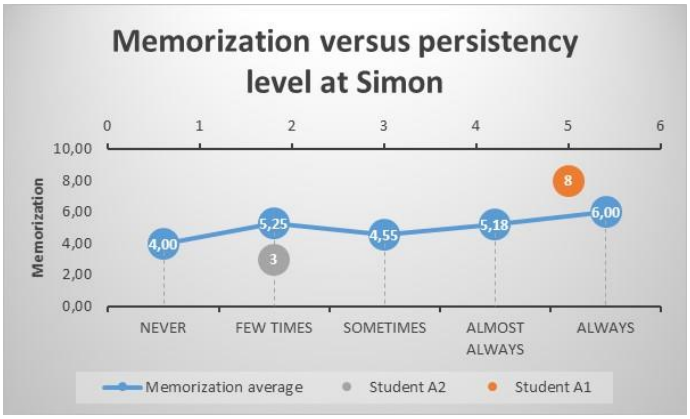

Figure 6 Memorization versus Persistency level at Simon

The On the Edge and Simon workshops data analysis allowed us to conclude that exists a correlation between the level of persistency on trying to finish each game level and the score achieved by each student. Results also evidentiated that students with cognitive deficiency were able to engage and to conclude challanges in similar way as the others.
For the game 20,000 Leaks were correlated spatial notion level and coordination seen with the score obtained by the student. Figure 7 graph shows the average score for each value of the Likert scale.

The 20,000 Leaks workshop results analysis has shown a strong correlation between spatial orientation and coordination with the score obtained. Despite the student´s score performance, we observed that all students were highly engaged and motivated to Interact with the Kinect device. Like in the other 2 games, we also observed the student with cognitive deficiency was able to play several levels of the 20,000 Leaks game and to keep engaged and motivated during the whole workshop.

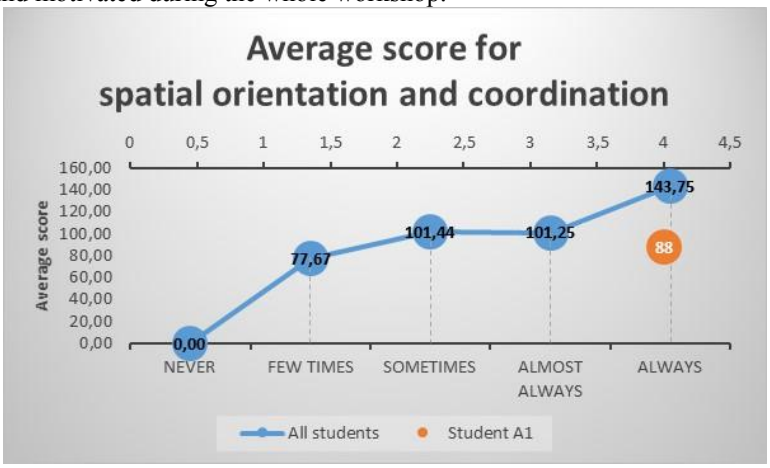

Figure 7 Average score for spatial orientation and coordination at 20,000 Leaks

Considering the collected and analyzed data, highlights the participation of all students, regardless of their intellectual conditions. The type of proposed activity, ie digital games, allowed the engagement of students in a playful and inclusive way, evidenced by the levels of interest shown.

Observationa and verbalization analysis

By analyzing the behavior of students regarding their utterances or actions, one can realize that most students preferred to play the On the Edge. More thinking and planning of moves, the challenge of winning stages was necessary - that the Simon are not clear - did the students tried more times, asked help, seek strategies, collaborate with each other. They seemed to have more fun, and get commenting on their progress, as evidenced in a few lines: "I got !; Oba !; 5'm in! "; "I was pro level 5". But watch yourself speak about the difficulties: "It's hard for chayote !; Ai lost again !; I have already lost !; What in 4 ?; The profe, I will lose I already know !; You're 3 still Cristian!; Oh, almost! "

Regarding Simon, many had difficulties to play, first to understand the game and then synchronize their actions with the presented sequences. Although the arrow keys had been marked with labels colors Simon, students were lost when looking at the keyboard and not watch the computer screen. Some words: "Red !; yellow !; Then I do not know! "; "Difficult". In one of the schools, some students began to play with the sound of defeat in the Simon game. From one perspective, playing with the sound was funny; but at other side it could distract the player or his colleagues in a game like Simon that requires a lot of concentration. Following a student speech: "It seems that loose fart!" (Laughter). At the 20,000 Leaks game verbalization´s examples were: "And if I had a whale" "I love it!".

Chatting with students

In the interview at the end of the workshops, most students said they have contact with other games at home or at school, including: Frive, Transformers, Mario Brothers, Dragon City and memory games. Among the games the workshops, the On the Edge was the favorite for the reason that, for children, Simon requires a lot of attention, speed and memory. In addition, students gave suggestions of what changes would in games. The speech highlighted indicates the difficulty and reveals the suggested change to the game considered by most the most difficult: "In Simon if he stayed more lentinho prá pay attention and take time to think ...".

With respect to learning, the answers were diverse, but one of them caught the attention and deserves emphasis: "I learned more from the little square (On The Edge), I learned to never give up, because if not I'll never get my dream, be giving up all day I'll never achieve anything, have to keep trying. "In this case, the child not only reflected on the game itself, but went further, made a connection on his own life in relation to the challenges it faces and goals you want to achieve.

An important factor that will contribute to the creation of a new game is the concern of children with the understanding of the game and its rules. At times, it was noticed that some children have not had a satisfactory performance, not because they were limited in their ability to play, but do not understand the rules of the game, mainly for failure to provide the necessary attention to understand them.

CONCLUSIONS

The workshops with the On the Edge and Simon games bring different aspects to be considered in the survey. The level of involvement of children and their responses to the challenges posed in the games gives important subsidies for a better understanding of the motivating factors for learning. Now, if the child can not concentrate or be persistent in their attempts, motivated by the elements offered by the game, thus learning hereby quedará impaired. Therefore, the evaluation tool in this research gives another look at observation of attitudes and interactions of children.

During workshops were clear about some aspects of the development proposal for a new game. Important elements were raised during the observations, which now contribute effectively in this development stage. The challenges of the game need to be clear so that the player is interested in playing remain, including phases that have a level of increasing complexity, in which the player uses the knowledge gained to better a stage play the next play. The commands need to be clear, proper sound, so that no stage of the game generates frustration, instead, that the plays generate pleasure, concentration, persistence and fun to players, to thereby

achieve the goal of learning.

We believed therefore that a key initial step for the participatory design of a digital game is the level of involvement analysis based on similar games. With the results, the design team found support to propose other activities that meet the development of a motivating educational game for the proposed learning objectives.

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Digital Language Learning Platforms From The Perspectives Of Preparatory Class Teachers And Students

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ABSTRACT
With the emergence of new technologies, materials in language curricula have begun to be built upon digital platforms, which offer variety and provide enrichment in teaching-learning process. Among these materials, e-texts and online components of course-books, separate digital platforms constructed to improve writing, reading, vocabulary, grammar can be counted as the mostly used ones. While some are designed for classroom use to foster teachers' teaching via visual support and richer content, some are intended to be used by learners outside the class, offering more opportunities for language exposure and promoting learner autonomy as well. These innovative tools have brought about new requirements such as teachers' and students' having digital literacy skills. However, before that, teachers' and students' beliefs, attitudes and readiness considering technology-integrated language learning should be investigated to successfully implement it into the curriculum. Within this framework, this study aims to find out teachers' and students' way of access to the Internet, their frequency of using the digital platforms they are required to use and their attitudes and perceptions in relation to using digital platforms in language teaching-learning process. With this goal in mind, research was carried out with 252 students and 40 teachers in the Department of Foreign Languages at Istanbul University in the academic year of 2014-2015. The findings of the research provided implications for institutions and teachers to make more research-based decisions in the process of selecting technology-based materials for their language curricula and revealed differences at several points between the perceptions and attitudes of teachers and students concerning technology-integrated language teaching-learning process.

Keywords: CALL, digital literacy, digital language learning platforms, language teaching in higher education.

INTRODUCTION

Technology has had a great impact on many people's lives in various ways all over the world. Among the main reasons for using technology in language teaching, the way it has transformed our lives and the need for acquiring a new skill called 'digital literacy' can be considered to be the heading factor (Hockly, 2012). The world-wide and nation-wide standards also require institutions and individuals to integrate technology into language teaching. Turkey as a country in the Bologna Process is to adopt the principles stated as part of the studies of European Higher Education Area. For instance, a learner at an undergraduate level is expected to

monitor the developments in the field and communicate with peers by using a foreign language at least at a level of European Language Portfolio B1 General Level. …
use informatics and communication technologies with at least a minimum level of European Computer Driving License Advanced Level software knowledge. (NQF-HETR, 2010)

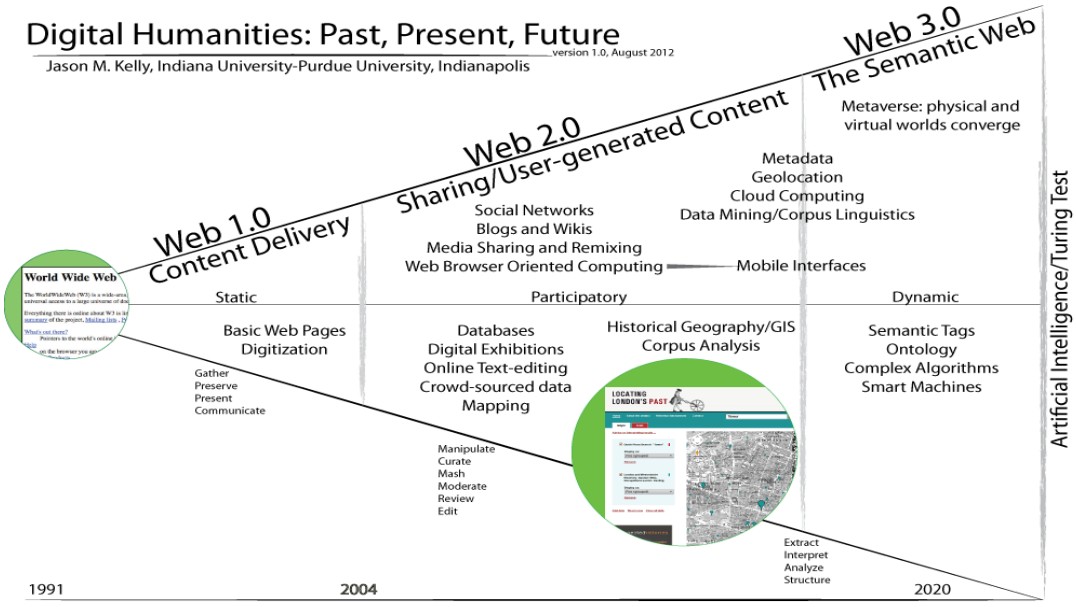
Another factor justifying the use of technology in education is that technology-integrated language teaching exemplifies the gains of the powers of two different systems, studies; to Motteram (2013, p.182), "... it is between the boundaries of two or more activity systems where we find new developments occurring. ... CALL and ELT ... applied linguistics and ELT, and applied linguistics and CALL."

As to what is meant by technology in language teaching, addressing the history of CALL will be a sound starting point; CALL "refers to a variety of technology uses for language learning including CD-ROMs containing interactive multimedia and other language exercises, electronic reference materials such as online dictionaries and grammar checkers, and electronic communication in the target language through email, blogs, and wikis" (Chapelle, 2010, p.66). While in the past language was taught through textbooks or hard-

copy materials prepared by teachers, today ELL website materials (Shen et al. 2014), CD-ROMs, companion websites of textbooks and/or learning management systems (Yu, 2010) offered by the publishers or the institutions themselves enrich language teaching-learning process. In addition, the number of communication channels has increased through the spread of using email, Skype, blogs (Murray & Hourigan, 2008; Rivens Mompean, 2010; Bhattacharya & Chauhan, 2010; Trajtemberg & Yiakoumetti, 2011), virtual learning environments (Peterson, 2012) which might also support the learning process by enabling student-student, student-teacher, teacher-teacher meetings. One more alternative is distance-learning programs, which offer individuals educational opportunities despite their being in different parts of the world (Chapelle, 2010; Dudeney & Hockly, 2012; White, 2006; White, 2014).

In terms of the phases technology-integrated language teaching has taken, three main periods, named differently by different scholars, play a significant role. One of the classification is by Warschauer and Healey (1998) as "behavioural (later changed to structural) (Warschauer, 2000), communicative, interactive"; Bax (2003) categorizes the process as "restricted, open, integrated" (Warschauer and Healey, 1998, Warschauer, 2000, Bax, 2003, cited in Motteram, 2013, p.182). In another type of division, the stages are named as Web 1.0, Web 2.0, Web 3.0; among the ones preferring this type of division, Kelly's (2012) definitions and examples can be seen in Figure 1.

Figure 1. The Phases of Digital Technologies



The figure signifies that the use of digital technologies, mainly Internet, has started in the 1990s with the web pages which do not allow the audience to make any comments or contributions; their main function is to share the content. Web 2.0. phase, however, has enabled people to participate in the platforms. Web 3.0. has introduced people the virtual learning environments and is going on offering more opportunities each coming day.

While the field of technology-integrated language teaching advances, the practice might not proceed in parallel with the opportunities offered, or the facilities are not at the same level everywhere. At this point, Hockly (2014) foregrounds the reality of 'digital divide' in access to technology

between developed countries (who have technology) and developing countries (who do not), … within individual countries (for example between urban and rural areas), and even within individual classrooms (for example between learners who have access to technology at home and those who do not)… 'effective' and 'ineffective' uses of technology for language learning (Yang and Egbert 2004), regardless of the technology available and … those who have the necessary 'skills' to use technology effectively and those who do not (Warschauer 2011). (p.79)

'Digital divide' points to the probable imbalance between what is intended to be achieved and what is being achieved considering technology-integrated language education. It necessitates institutions to make an attempt on raising students' and teachers' awareness of new opportunities technology can offer to improve language teaching-learning process. Institutions should also consider if their existing context is available to implement the new system and envisage whether they can improve the physical facilities and make any changes to adapt to that intended innovation. In this process, it is the responsibility of institutions to offer trainings for the staff and the students to make the changeover easier and to reach long-term success.

RESEARCH METHODOLOGY

Based on this theoretical framework, research was carried out to investigate students' and teachers' preferences, attitudes and perceptions regarding technology-integrated language teaching-learning process. As a data collection instrument, a questionnaire was developed. The research was conducted with the participation of English preparatory class students and teachers in the Department of Foreign Languages at Istanbul University in the academic year of 2014-2015. The participating group is composed of teachers who are expected to use the e-texts of the course-book and the online writing platform in the class and students who are responsible for using the online component of the course-book, online writing platform and online Readers' platform as homework/ self-study. The questionnaire designed aimed to collect data about teachers' and students'

- ways of access to the Internet,
- perceptions of the frequency of teachers' using digital platforms inside the class,
- perceptions of the frequency of students' using digital platforms outside the class,
- preferences, beliefs and perceptions of using technology in language learning process.

After consulting to several scholars who are experts and/or experienced in the subject-matter being explored, the designing process of the questionnaire was completed. The questionnaires were filled and submitted in paper form; the reason why online questionnaire was not preferred is that the research aimed to get data from all the participants regardless of their having access to the Internet. If it had been given online, it would not have been possible to get data from the participants who do not have access to the Internet or who are not capable of using it. Here, it should be highlighted that the purpose of the study is to see the big picture, trying to capture the reality of technology in education.

Although the target group of participants might include all the teachers and students using digital platforms in teaching-learning process, sampling method was used and the research was conducted in the Department of a university. First of all, the target group was limited to the preparatory classes in higher education because the research would end up with different results with different age groups; their expectations, interests, preferences might be different from the generation's at university. The reason why it was conducted in one university is the practicality of reaching the target group face-to-face because this questionnaire had to be completed in paper from, not online, to reveal the profile objectively. In addition, although the participating group of teachers used some online platforms before, it was not that rich and diverse and one of the goals of this research was to reveal whether what was planned is in parallel with what is being preferred and what is being done. Sampling method was used to collect data from all three levels of classes (A, B, C) in the English Division; 252 English preparatory class students -out of 1700- and 40 English preparatory class teachers voluntarily participated in the survey.

SPSS programme was used in the statistical analysis of the data. Chi-square test technique was applied to calculate whether there is statistically meaningful difference between the perceptions, preferences and attitudes of teachers and students. The tables represent the frequencies, percentages, mean scores (except for the chi-square tables) and chi-square test results.

RESEARCH FINDINGS

Through the quantitative data obtained, the findings of the research help to reveal how the teachers and students have access to the Internet, how often the participating teachers use digital platforms inside the class, how often the students use digital platforms outside the class, the teachers and students' preferences, beliefs and perceptions of using technology in language teaching-learning process.

To start with the participants' way of access to the Internet, as shown in Table 1, both the teachers and students mostly use their laptops/PCs and smart phones; however, while the teachers use their laptops/PCs more, the students use their smart phones more in access to the Internet. In addition, using tablets are more popular among the teachers than the students.

Table 1. Frequencies and percentages showing the participants' ways of access to the Internet

Access to the Internet via … .	Students		Teachers	
	f	%	F	%
their laptop/PC	201	79,8	37	92,5
their smart phone	223	88,5	30	75
their tablet	45	17,9	14	35
computers in the dormitory	5	2		
computers at school	13	5,2		

While most of the participating teachers are familiar with the system of following students' studies from an online component of the course-book for about 9 years and they have been projecting the book pages on the board for about 4 years, the systems used in 2014-2015 necessitated for the institution to give training mainly because the number and the variety of digital platforms increased this year; moreover, each year a novice teacher joins the institution, which calls for the institution's holding a training session. In the case of students' training, it is also compulsory because of the diverse profile of the students, some of whom are familiar with technology and using technology in language teaching and some of whom are not. As a response to the statement intended to reveal whether the participants have been offered with the necessary training; while three quarters of students responded that they did not get training, this percentage decreases to 32,5% for the teachers (Table 2).

Table 2. Frequencies and percentages showing whether the participants have the necessary training before using the technology-based materials

	Students		Teachers	
	f	%	f	%
No	191	**75,8**	13	32,5
Yes	61	24,2	27	**67,5**
Total	252	100	40	100

As to the help the participating students and teachers get when they have a problem with using technology, as seen in Table 3, while almost all the teachers responded that they could get such kind of help, more than three quarters of the participating students stated that they are not provided with such a support when they have a problem with using technology.

Table 3. Frequencies and percentages showing the participants' perception of the possible help they get when they have a problem using technology

	Students		Teachers	
	f	%	f	%
No	197	**78,2**	3	7,5
Yes	55	21,8	37	**92,5**
Total	252	100,0	40	100

Among the digital platforms the participant teachers expected to use, some of them are supplementary and some are designed as main reference materials. The teachers are expected to use the e-texts of the course-books and online writing platform in their lessons. They could also refer to the online component of the

course-book to encourage students to use these components. Table 4 represents students' perceptions regarding the frequency of their teachers' using these platforms and other technology-based materials in the class.

Table 4. Frequencies, percentages, mean scores showing students' perception regarding the frequency of their teachers' use of technology-integrated language teaching materials

Teachers use … in class.	Never		Rarely		Sometimes		Often		Always		N	Mean	SD
	f	%	f	%	f	%	F	%	f	%			
e-texts of the course-book projecting the book pages on the board	3	1,2	9	3,6	9	3,6	53	21	178	70,6	252	4,56	0,823
online component of the course-book	6	2,4	12	4,8	28	11,2	91	36,4	113	45,2	250	4,17	0,973
online writing platform	33	13,5	45	18,4	62	25,4	64	26,2	40	16,4	244	3,14	1,277
online supplementary materials	10	4	21	8,4	77	30,9	91	36,5	50	20,1	249	3,6	1,027
power-point presentations	41	16,5	46	18,5	101	40,6	42	16,9	19	7,6	249	2,81	1,134
videos	11	4,4	23	9,3	96	**38,7**	82	**33,1**	36	14,5	248	3,44	0,996

The results demonstrate that great majority of the teachers almost always use e-texts of the course-book in class as perceived by the participating students. They also use online component of the course-book although they do not have to; however, the teachers do not prefer much to use online writing platform although it is the main reference of the writing lessons as stated in the syllabus. On the contrary, the participating group of teachers does not have to use online supplementary materials, power-point presentations and videos in the class, but the results show that they sometimes use them in their classes, which indicates that the teachers voluntarily prefer to utilize from technology in their classes. The table below represents the teachers' own perceptions as regards the frequency of their using digital platforms.

Table 5. Frequencies, percentages, mean scores showing teachers' perception regarding the frequency of their use of technology-integrated language teaching materials

I use … in class.	Never		Rarely		Sometimes		Often		Always		N	Mean	SD
	F	%	f	%	f	%	F	%	f	%			
e-texts of the course-book projecting the book pages on the board	0	0	0	0	4	10	5	12,5	31	**77,5**	40	4,68	0,656
online component of the course-book	3	7,5	1	2,5	5	12,5	10	**25**	21	**52,5**	40	4,13	1,202
online writing platform	8	20,5	5	12,8	9	23,1	8	20,5	9	23,1	39	3,13	1,454
online supplementary materials	1	2,5	5	12,5	10	25	14	35	10	25	40	3,68	1,071
power-point presentations	8	20	3	7,5	11	**27,5**	12	**30**	6	15	40	3,13	1,343
videos	2	5	5	12,5	17	**42,5**	10	**25**	6	15	40	3,33	1,047

The findings in pertinent to the teachers' perceptions show parallelism with the ones obtained from the students; the teachers use e-texts of the course-book and online component of the course-book in the class more frequently than they use writing platform or any other online supplementary materials. They sometimes

use power-point presentations and videos, but no remarkable result is observed except for their degree of using e-texts and online component of the course-book.

When we look into the results obtained through the chi-square test conducted to see whether there is statistically meaningful difference between the perceptions of teachers and students regarding teachers' using digital platforms in class, except for teachers' degree of using 'power point presentations' (X^2=9564; p‹0,05), no meaningful difference is spotted (Table 6). Comparing the mean scores of the teachers' and the students' responses confirms this finding.

Table 6. Chi-square test results showing the difference between the perceptions of teachers and students of the frequency of teachers' using digital platforms in class

Teachers' using … in class.	X^2	Sd	P
e-texts of the course-book projecting the book pages on the board	6,602(a)	4	0,159
online component of the course-book	5,033(a)	4	0,284
online writing platform	3,107(a)	4	0,54
online supplementary materials	1,668(a)	4	0,797
power-point presentations	9,564(a)	4	**0,048**
Videos	1,226(a)	4	0,874

Another element investigated through the research is to see how often the participating group of students uses the digital platforms they are responsible for using outside the class as supplementary studies. The online component of the course-book serves as the workbook of the course-book, so the students are to do the exercises assigned in that platform. Online writing platform is the main reference of the writing classes; therefore, the students are responsible for completing the assignment parts outside the class. From the Readers' platform, the students are due to choose and read at least two books each month. Table 7 summarizes the perceptions of the participating group of students in relation to the frequency of their using these digital platforms.

Table 7. Frequencies, percentages, mean scores showing students' perception regarding the frequency of their using technology-integrated language materials as homework/self-study

I use … as homework/self-	Never		Rarely		Sometimes		Often		Always		N	Mean	SD
	f	%	f	%	f	%	F	%	f	%			
online component of the course-book	105	**42,3**	28	11,3	64	25,8	29	11,7	22	8,9	248	2,33	1,358
online Readers' platform	130	**52,6**	43	17,4	47	19	21	8,5	6	2,4	247	1,91	1,128
online writing platform	104	**42,1**	47	19	66	26,7	18	7,3	12	4,9	247	2,14	1,185

As seen in the table, the frequency of the participating students' using digital platforms outside the class is not high as perceived from their own perceptions. The table below shows teachers' perceptions regarding how often their students use the digital platforms.

Table 8. Frequencies, percentages, mean scores showing teachers' perception regarding the frequency of students' using technology-integrated language materials as homework/self-study

Students use … as homework/self-study.	Never		Rarely		Sometimes		Often		Always		N	Mean	SD
	f	%	f	%	f	%	f	%	f	%			
online component of the course-book	4	10,3	15	**38,5**	9	**23,1**	9	**23,1**	2	5,1	39	2,74	1,093

online Readers' platform	8	21,6	16	**43,2**	8	**21,6**	4	10,8	1	2,7	37	2,3	1,024
online writing platform	9	**24,3**	11	**29,7**	11	**29,7**	4	10,8	2	5,4	37	2,43	1,144

The perceptions of the teachers also verify that the students do not frequently use online platforms outside the class. As to the chi-square test results showing whether there is difference between the perceptions of teachers and students related to the frequency of the students' using digital platforms as homework/self-study; both in terms of their using online component of the course-book and online Readers' platform, they have different perceptions; however, there is no significantly meaningful difference in their view of students' using online writing platform (Table 9). Neither the students nor the teachers respond in the way that students use online writing platforms.

Table 9. Chi-square test results showing the difference between the perceptions of teachers and students of the frequency of students' using technology-integrated language materials as homework/self-study

Students' using … as homework/self-study.	X^2	Sd	P
online component of the course-book	29,701(a)	4	**0,000**
online Readers' platform	17,023(a)	4	**0,002**
online writing platform	5,004(a)	4	0,287

In addition to comparing the perceptions of teachers and students in relation to the frequency of their using digital platforms, the research aimed to find out the differences between their attitudes, beliefs and perceptions of technology-integrated language learning-teaching process via likert-type agreement scale (SD=Strongly disagree, D=Disagree, UD=Undecided, A=Agree, SA=Strongly agree).

Table 10. Frequencies, percentages and chi-square test results showing the difference between the attitudes of teachers and students towards using technology in class

		SD	D	UD	A	SA	Total	X^2	Df	P
Ts	f	0	1	3	18	18	40	9,538(a)	4	**0,049**
	%	0,00%	2,50%	7,50%	45,00%	**45,00%**	100,00%			
Ss	f	16	14	46	105	67	248			
	%	6,50%	5,60%	18,50%	42,30%	**27,00%**	100,00%			
Total	f	16	15	49	123	85	288			
	%	5,60%	5,20%	17,00%	42,70%	29,50%	100,00%			

The results in the table show that there is a meaningful difference between the attitudes of teachers and students towards technology-integrated language teaching in class (X^2=9538; p‹0,05). Looking into the percentages, while 45% of the teachers strongly agreed that they prefer using technology in class, among the students 27% strongly agreed. However, it can be inferred that both teachers and students prefer using technology in class because in both groups the great majority strongly/agreed to the statements.

Table 11. Frequencies, percentages and chi-square test results showing the difference between the attitudes of teachers and students towards using hard copy materials in class

		SD	D	UD	A	SA	Total	X^2	Df	P
Ts	f	0	2	6	23	9	40	10,901(a)	4	**0,028**
	%	0,00%	5,00%	15,00%	**57,50%**	**22,50%**	100,00%			
Ss	f	7	11	22	92	117	249			
	%	2,80%	4,40%	8,80%	**36,90%**	**47,00%**	100,00%			
Total	f	7	13	28	115	126	289			
	%	2,40%	4,50%	9,70%	39,80%	43,60%	100,00%			

As seen in Table 11, there is statistically meaningful difference between the attitudes of teachers and students towards using hard copy materials in class (X^2=10,901; p‹0,05). While the percentage of teachers who agreed is higher than those who strongly disagreed, the percentage of students who strongly agreed is higher than those who agreed. When we also check the results in relation to the participants' preference for using technology-integrated materials in class, the percentage of teachers who strongly agreed to the use of technology in class is more than the percentage of teachers who strongly agreed to the use of hard copy materials in class.

Table 12. Frequencies, percentages and chi-square test results showing the difference between the teachers' and students' beliefs regarding the need for students to study outside the class using online supplementary materials

		SD	D	UD	A	SA	Total	X^2	Df	P
Ts	f	0	0	6	20	14	40	15,582(a)	4	**0,004**
	%	0,00%	0,00%	15,00%	50,00%	35,00%	100,00%			
Ss	f	14	30	67	92	44	247			
	%	5,70%	12,10%	27,10%	37,20%	17,80%	100,00%			
Total	f	14	30	73	112	58	287			
	%	4,90%	10,50%	25,40%	39,00%	20,20%	100,00%			

The results signify meaningful difference (X^2=15,582; p‹0,05) between the participants' responses. While 50% of teachers agreed and 35% strongly agreed to the statement that students need to study outside the class using online supplementary materials, 37,2% agreed and 17,8% strongly agreed among the participating students as a response to the statement as, "I believe I need to study outside the class using online supplementary materials".

Table 13. Frequencies, percentages and chi-square test results showing the difference between the attitudes/preferences of teachers and students towards reading books from an online platform

		SD	D	UD	A	SA	Total	X^2	Df	P
Ts	f	5	18	10	5	2	40	12,218(a)	4	**0,016**
	%	**12,50%**	**45,00%**	25,00%	12,50%	5,00%	100,00%			
Ss	f	99	69	40	24	12	244			
	%	**40,60%**	**28,30%**	16,40%	9,80%	4,90%	100,00%			
Total	f	104	87	50	29	14	284			
	%	36,60%	30,60%	17,60%	10,20%	4,90%	100,00%			

While the distribution of the responses between the teachers and the students shows parallelism on the grounds that both groups stated that they themselves do not prefer reading books from an online platform, the results signify statistically meaningful difference (X^2=12,218; p‹0,05). 12,5% of the teachers but 40,6% of the students strongly disagreed to the statement as, "I prefer reading books from an online platform".

Table 14. Frequencies, percentages and chi-square test results showing the difference between the attitudes of teachers and students towards doing/preparing exercises from an online platform

		SD	D	UD	A	SA	Total	X^2	Df	P
Ts	f	0	6	7	22	5	40	20,005(a)	4	**0,00**
	%	0,00%	15,00%	17,50%	**55,00%**	12,50%	100,00%			
Ss	f	45	55	58	60	27	245			
	%	18,40%	22,40%	23,70%	**24,50%**	11,00%	100,00%			
Total	f	45	61	65	82	32	285			
	%	15,80%	21,40%	22,80%	28,80%	11,20%	100,00%			

The results show that there is statistically meaningful difference between the attitudes of teachers and students towards doing exercises from an online platform -for students- and preparing exercises from an online platform-for teachers (X^2=20,005; p‹0,05). The percentages show that the participating teachers tend to utilize from online platforms more while studying. On the contrary, the students do not prefer studying via doing exercises from an online platform. This also strengthens the finding revealed through the responses students gave to the statement aimed to find out whether students feel that they need to study from online platforms.

Table 15. Frequencies, percentages and chi-square test results showing the difference between the attitudes of teachers and students towards reading a hard copy book

		SD	D	UD	A	SA	Total	X^2	Df	P
Ts	f	0	2	2	17	17	38	9,114(a)	4	**0,058**
	%	0,00%	5,30%	5,30%	**44,70%**	**44,70%**	100,00%			
Ss	f	6	12	15	56	157	246			
	%	2,40%	4,90%	6,10%	**22,80%**	**63,80%**	100,00%			
Total	f	6	14	17	73	174	284			
%		2,10%	4,90%	6,00%	25,70%	61,30%	100,00%			

Nearly 90% of the teachers and students strongly/agreed (in total) that they prefer reading a hard copy book. While the results do not reveal statistically meaningful difference (p=0,058), it might be considered to be on the threshold; 44,7% of the teachers but 63,8% of the students strongly agreed and 44,7% of the teachers but 22,8% of the students agreed to the statement.

Table 16. Frequencies, percentages and chi-square test results showing the difference between the attitudes of teachers and students towards studying pen and paper

		SD	D	UD	A	SA	Total	X^2	Df	P
Ts	f	4	11	8	13	4	40	51,485(a)	4	**0,00**
	%	10,00%	27,50%	20,00%	32,50%	10,00%	100,00%			
Ss	f	11	6	38	68	123	246			
	%	4,50%	2,40%	15,40%	27,60%	50,00%	100,00%			
Total	f	15	17	46	81	127	286			
%		5,20%	5,90%	16,10%	28,30%	44,40%	100,00%			

With statistically meaningful difference (X^2=51,485; p‹0,05), students prefer to study pen and paper. These findings also show parallelism with the other statements revealing personal preferences in self-studies. Students tend to study pen and paper while the participating group of teachers compared to the participating group of students prefers utilizing from digital platforms in their studies.

Table 17. Frequencies, percentages and chi-square test results showing the difference between the perceptions of teachers and students regarding teachers' encouraging students to use online platforms

		SD	D	UD	A	SA	Total	X^2	df	P
Ts	f	0	0	3	22	15	40	10,673(a)	4	0,03
	%	0,00%	0,00%	7,50%	**55,00%**	**37,50%**	100,00%			
Ss	f	5	17	52	121	54	249			
	%	2,00%	6,80%	20,90%	**48,60%**	**21,70%**	100,00%			
Total	f	5	17	55	143	69	289			
	%	1,70%	5,90%	19,00%	49,50%	23,90%	100,00%			

Although more than 70% of both students and teachers strongly/agreed (in total) that teachers encourage students to use online materials, the statistical results still show a meaningful difference (X^2=10673; p‹0,05); while 37,5% of the participating teachers strongly agreed, the percentage decreases to 21,7% in the students' responses.

Table 18. Frequencies, percentages and chi-square test results showing the difference between the perceptions of teachers and students as to whether they find online components easy to use or not

		SD	D	UD	A	SA	Total	X^2	df	p
Ts	f	1	6	14	14	3	38	4,687(a)	4	0,321
	%	2,60%	15,80%	**36,80%**	36,80%	7,90%	100,00%			
Ss	f	29	29	70	82	33	243			
	%	11,90%	11,90%	**28,80%**	33,70%	13,60%	100,00%			
Total	f	30	35	84	96	36	281			
	%	10,70%	12,50%	29,90%	34,20%	12,80%	100,00%			

The statistical results showing whether the students find online components easy to use or not do not signify meaningful difference between the teachers' and the students' perceptions (p=0,321). As the number of participants who are undecided is high and the number of participants who agreed is not remarkably high, we cannot come to a clear conclusion. However, as the number of participants who agreed is higher than those who disagreed, we might infer that not many students find online components difficult to use.

Table 19. Frequencies, percentages and chi-square test results showing the difference between the perceptions of teachers and students as to whether they don't prefer using technology in language learning/teaching because they don't have a good command of computer

		SD	D	UD	A	SA	Total	X^2	Df	p
Ts	f	21	11	1	5	2	40	5,397(a)	4	0,249
	%	**52,50%**	**27,50%**	2,50%	12,50%	5,00%	100,00%			
Ss	f	101	75	35	22	10	243			
	%	**41,60%**	**30,90%**	14,40%	9,10%	4,10%	100,00%			
Total	f	122	86	36	27	12	283			
	%	43,10%	30,40%	12,70%	9,50%	4,20%	100,00%			

No statistically meaningful difference is observed between the perceptions of students and teachers regarding their personal awareness of their computer knowledge and its being a probable effect on their preferring/not preferring technology-integrated language teaching. Both groups strongly/disagreed to the statement that they don't prefer using technology because they are not good at using computers.

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Table 20. Frequencies, percentages and chi-square test results showing the difference between the perceptions of teachers and students as to whether students find it useful to study from uploaded materials on LMS

		SD	D	UD	A	SA	Total	X^2	Df	P
Ts	f	3	4	15	13	4	39	2,083(a)	4	0,721
	%	7,70%	10,30%	**38,50%**	33,30%	10,30%	100,00%			
Ss	f	29	32	95	58	30	244			
	%	11,90%	13,10%	**38,90%**	23,80%	12,30%	100,00%			
Total	f	32	36	110	71	34	283			
%		11,30%	12,70%	38,90%	25,10%	12,00%	100,00%			

There is no statistically meaningful difference observed between the perceptions of the two groups of participants as to whether the students find it useful to study from the uploaded materials on LMS they are expected to use outside the class both to communicate and to further their studies. The participants who are undecided outnumber those who agreed or disagreed; the number of participants who strongly/agreed is more than those who strongly/disagreed, so we cannot conclude that they do not find LMS useful.

Apart from the quantitative data reached through the statistical analysis, looking at the participants' responses to an open-ended question asking them to express their opinions related to technology-integrated language teaching-learning process, it is realized that most of the students do not prefer digital platforms much but some believe in the need for implementing it into the process. Here are some of the responses received from the students:
"I suppose it isn't necessary. I prefer learning English with books and concrete materials. But sometimes we can use technology."
"I find it quite useful but sometimes unnecessary exercises in online platforms bother me. Except for that, I think videos and listening exercises must be supported and their amount should be increased."

What students have in common in their expressions is that they do not prefer doing exercises, reading books, or writing from online platforms in their self-studies, but they believe it can be used in the class. When it comes to the teachers' voices, most of them expressed that technology is useful, adding their suggestions:

"Technology is a very useful tool in the classroom. It often helps to engage students and can save teachers time. However, there is a danger of becoming too dependent on technology because there are always time that it fails, and then you need a backup plan."
"If both we and students have more technological equipment and facilities, use of technology will be more useful in language teaching."
"I think using technology in today's classes is a must. But I sometimes find using hard copy materials more practical and useful."
"I totally agree that using online materials in language teaching is a must. I also think that there should be guidance. So students should be guided to choose/use the right materials and to make a good combination of the online data."
"I think using technology in language teaching is a need in today's world, but I also believe that hard copy materials are still necessary as well. Students need to take notes, write down something and do an exercise from a handout. I observe that both ways should be used and applied together in language teaching."

Both the participating teachers and students came up with suggestions and solutions to overcome the difficulties they have faced during the process of implementing technology into language class. Most of them hold the view that it is not an end but a means; it should be supplementary without eliminating hard-copy materials; facilities should be provided and trainings should be offered to maximize the benefits of integrating technology into a language class.

CONCLUSION AND SUGGESTIONS

The research enabled to ponder on the efforts for integrating technology into language teaching and provided implications for the coming year's decisions. The findings helped to reach the following results:

1. Most of the participants do not have a problem in access to the Internet. Teachers use their laptops/PCs more; students use their smart phones more.

2. While most of the participating teachers reported that they took trainings to learn how to use technology-integrated materials, a great many of the students stated that they did not have any trainings before they met technology-integrated language teaching-learning materials. Similarly, almost all the teachers responded that they can get help when they have a problem with using technology in class, significant number of students expressed that they do not have support when they face a problem with using technology-integrated language learning materials. Actually, the teachers- both before they started to use the materials and just after they started to use the platforms- were offered with the trainings as a guide to using the platforms. Likewise, the students were offered with the trainings at the beginning of the year when they first started to use the digital platforms; however, just a small number of students participated in the trainings. Here, the reasons can be investigated to see if it is because of their resistance, reluctance, not being announced, or else.

3. In terms of the perceptions of teachers and students regarding teachers' using digital platforms in class, except for teachers' degree of using 'power point presentations' in class, no meaningful difference is spotted. Teachers were reported to be almost always using e-texts, projecting the book pages in class. More than half were reported to be using online supplementary materials platform. Actually, the students are to complete the exercises on the online component of the course-book. The reasons can be explored to see why the teachers use the online component of the course-book more than the students do despite the fact that students have the primary responsibility for studying from the online component of the course-book. The teachers might feel the need to support the lesson by using the online component of the course-book because there is no hard-copy workbook to supplement the course-book; the online component of the course-book is designed to serve this purpose.

4. As to the perceptions of teachers and students related to the frequency of the students' using digital platforms as homework/self-study; both in terms of their using online component of the course-book and online Readers' platform, they have different perceptions; as to the writing platform, there is no significantly meaningful difference in their perceptions. For all these three platforms, while the students selected 'never', the teachers chose 'rarely' or 'sometimes' more as a response; nevertheless, the common point is that the students do not tend to use digital platforms.

5. Online writing platform is not among the ones which are preferred much; the teachers mentioned that it is not practical to teach writing course by projecting the material on the board; they expressed that both the teachers themselves and the students want to write pen and paper, underline the model paragraphs, essays, etc. Based on this feedback, all the underlying reasons for the writing platform's not being popular should be investigated.

6. The research also helped to investigate the participants' preferences for technology in language learning-teaching process and to find out whether there is statistically meaningful difference between the teachers' and the students' attitudes. To start with, meaningful difference is spotted between the attitudes of teachers and students towards technology-integrated language teaching in class (X^2=9538; p‹0,05) and towards using hard copy materials in class (X^2=10,901; p‹0,05); the percentage of teachers who strongly agreed to the statement aiming to identify the ones who prefer using technology in class is higher than those of students. Accordingly, more students strongly agreed to the statement asking for the participants' preference for using hard-copy materials in class. In parallel with these two results, there is statistically meaningful difference (X^2=15,582; p‹0,05) between the participants' responses to the statement that students need to study outside the class

using online supplementary materials; the number of teachers who believe that students need to study outside the class using the online components is higher than the participating group of students who hold the same view.

7. Going on with the participants' personal preferences, it is observed that with significantly meaningful difference (X^2=12,218; p‹0,05) fewer teachers strongly disagreed to the statement as, "I prefer reading books from an online platform." Nearly 90% of the teachers and students strongly/agreed (in total) that they prefer reading a hard copy book; the results do not reveal statistically meaningful difference. Thus, while the teachers are trying to keep up with the technological changes, they do not give up reading hard copy books.

8. Most of the students prefer to study pen and paper with statistically meaningful difference (X^2=51,485; p‹0,05). Accordingly, there is statistically meaningful difference between the attitudes of teachers and students towards doing exercises from an online platform -for students- and preparing exercises from an online platform-for teachers (X^2=20,005; p‹0,05). The percentages show that teachers tend to utilize from online platforms more while studying. On the contrary, the students do not prefer studying via doing exercises from an online platform. This also strengthens the finding revealed through the responses students gave to the statement aimed to find out whether students feel that they need to study from online platforms.

9. In terms of teachers' encouraging students to use online materials; there is a meaningful difference (X^2=10673; p‹0,05); while 37,5% of the participating teachers strongly agreed, the percentage decreases to 21,7% in the students' responses. Yet, a great majority of the students and teachers hold the view that the teachers encourage the students to use online materials (55% of the teachers and 48,6% of the students agreed).

10. No significance difference is spotted between the two groups' perceptions as regards the students' finding LMS useful. As the number of the participants who is undecided is high and there is no considerably high percentage for the rest of the choices, particularly for 'strongly/disagree', we cannot draw a conclusion that they do not find LMS useful.

11. The feedback the participants gave via the open-ended question asking them to express their opinion of technology-integrated language teaching revealed that many of the participants prefer using technology to support teaching, underlying that it should not be overused. Therefore, the main role of technology in language teaching can be described to "assist and enhance language learning", with one important note that "[t]he use of technology should never be the goal in and of itself, but rather one tool for helping language learners to use the target language in culturally appropriate ways to accomplish authentic tasks." (ACTFL)

The results of the research helped to provide insight for the discussion of technology-integrated language teaching-learning process in the sense that several factors should be taken into account before adopting and implementing new technology-based material into an existing program:

1. Local factors should be taken into account; the facilities provided by the institutions and students' profile (e.g. socio-economic condition, previous learning experiences) play an important role in the decision-making process of following technology-integrated language teaching.

2. Needs-analysis process should be employed to find out students' know-how needed to use technology-based materials, preferences and beliefs so as to successfully implement technology into language teaching-learning process.

3. What 'digital literacy' means and how it is important in the 21st. century should be explained to teachers and students. If it is at national level, nation-wide, if it is at institutional level, institution-wide research must be conducted to see whether they have the required skill or not.

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4. Both teachers and students must be provided with the necessary trainings (Felix, 2008). Although individuals are responsible for their own learning and development, institutions have the utmost responsibility to offer the trainings if their educational program involves new features. To Jung (2005, p.15), "[i]nformation technology may provide us with the means of overstepping the boundaries between classroom and real life, making experiential learning a possibility. … we need teachers who can adapt or modify their students' language acquisition devices when necessary." To do this, teachers need continual trainings.

5. Especially in the contexts where the technology is not equally accessible, the other factors should be investigated further. "[E]ducational beliefs, access to resources, student motivation, teacher training, class size, limited class time,, ... will determine how to work most effectively with digital technologies." (Hockly, 2014, p.82) Unless teachers believe the need for any innovations, the probability of reaching success is not at all available; teachers need to see sound reasons for making changes such as integrating technology into language teaching. The reluctance to adopt technology may depend on "incompatibility between the goals of education and interactions between teachers, students, educational and informational resources, and curricular goals and materials" (Levin & Wadmany, 2008, p.235, cited in Hong, 2010, p.64) or teachers might resist due to the "workload and/or change." (Hedayati & Marandi, 2014, p.308)

6. Both teachers and students need time to get used to the innovations. The research may be repeated three years later with the preparatory class students – if they still go on studying via online platforms.

7. In the institution the research was carried out, the purpose for integrating technology into language teaching was to increase students' motivation and participation by offering diversity, thinking that the generation is fond of technology. The main focus was on learning although they use LMS as a communication channel as well. That the students are not very willing to use digital platforms, but still prefer using technology in class and the fact that almost all of them have access to the Internet through their smart phones raise the question of 'what is the place and function of technology in this generation's life?' Therefore, "how students are actually using technologies" can be researched (Conole, 2008, p.124).

8. Similar research can be conducted comparing the public and private university students to see if the underlying reason is socio-economic conditions or the facilities provided.

9. The correlation between the preferences and perceptions of the participants should be investigated in order to see what they believe in doing and what they are actually doing.

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Discovery Year Options And Students' Preferences

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ABSTRACT
In 2009, the Universiti Brunei Darussalam (UBD) made extensive changes to its curriculum from a major-centric to a liberal arts style broad-based degree with emphasis on the soft-skill development. One of the important components of the new curriculum is the mandatory year out also known as the 'Discovery Year'. The objectives of the discovery year is to promote real-world experiential and design-centric learning, and students are given the opportunity to gain community-based or international experience outside of the UBD campus. During the discovery year, students have a choice of four activities namely study abroad, internship, incubation and community outreach programme. Since the inception of the discovery year, study abroad has always been the first choice for most of our students. In 2011, the ratio of UBD students who did the study abroad programme was 4 out of 10. This proportion increased to 7 out of 10 in 2014. More importantly, around 90% of students who left Brunei chose the study abroad option. In this paper, we investigated the reasons behind why study abroad is and has always been the first choice, and also the reasons behind the increasing proportion. We also explored the benefits of study abroad from the perspectives of both the home and host universities. Furthermore, we examined the issues and challenges that hindered the students from taking other activities during discovery year. To conclude, the benefits of study abroad are an all-encompassing one from raising the quality of education, improving the university's ranking to fostering global citizens.

Keywords: Curriculum, Experiential learning, Higher Education, Study Abroad

INTRODUCTION
In this paper we briefly looked at the curriculum changes that were undertaken in a university in Brunei Darussalam. Subsequently, we discussed the activities under the mandatory year out, known as the discovery year. In addition, we present the discovery year options that are available to the university students and their preferences, and the benefits in particular how the discovery year help foster global citizens. We also shared the breakdown of the respective activities under discovery year and gave possible explanation to the trends. The challenges and barriers for the activities are also discussed and we attempt to address these difficulties.

OVERVIEW OF GENNEXT AND DISCOVERY YEAR
In 2009, the premier local university in Brunei Darussalam, Universiti Brunei Darussalam (UBD, 2013a) implemented its new curriculum also known as GenNEXT (UBD, 2013b). GenNEXT is essentially a liberal-arts style education promoting cross- and trans-disciplinarily experiences. This is a major change from its previous curriculum, which is major-centric. One of the reasons for this change is to produce robust and nimble graduates who are able to cope in the ever-changing and highly competitive 21st century work environment, and bearing in mind that most jobs that are available now was not available 10-15 years ago. More interestingly, working professionals go through an average of 3-4 jobs during their working lives. Gone are the days where graduates are attached to just one job. Therefore, a university needs to adopt a more holistic approach to ensure its graduates stay relevant in the 21st century. Taking into account these reasons, it is hoped that through this curriculum changes, UBD can produce graduates equipped with a variety of life-skills. Central to GenNEXT is the discovery year (UBD, 2013c), which is the mandatory year out of the university, which typically happens during the 3rd year of candidature. Under the discovery year, students have a choice of one or two out of the four activities namely, study abroad, internship, incubation and community outreach programme. In the next section, we focus on the technicality of discovery year, the benefits and the crucial role it plays in fostering global citizenship

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DISCOVERY YEAR OPTIONS, STUDENTS' PREFERNCES AND ITS ROLES IN FOSTERING GLOBAL CITIZENSHIP

During the discovery year, all third year students must leave the university. During its inception in 2011, around 57% of the third year students left the country. From those that left Brunei, typically 9 out of 10 chose to do study abroad in partner universities spanning across 6 continents and over 10 countries (UBD, 2013d). Since then, the proportion leaving the country has increased from 67%, 73% and 80% in subsequent years. The proportion of the students choosing to study abroad stays rather constant at 90%. There is an even split for those doing community outreach programme and internship. It should also be noted that incubation is done locally at the home university. One reason for the increase in those going abroad is due to UBD's increasingly vast network of bilateral and multi-lateral partnerships, which facilitates two-way student mobility. This increase could also be attributed to UBD's rising reputation as a centre of excellence, not just in teaching and learning, but also in research. Notably, in the recent released QS Asian University Rankings for 2015 results, UBD was ranked the top university in Asia for student mobility (Kassim, 2015; QS Quacquarelli Symonds Limited, 2015a; UBD, 2015a, 2015b). Based on the survey indices supplied by QS, UBD obtained the number one rank for outbound student exchange and a number two rank for inbound exchange (QS Quacquarelli Symonds Limited, 2015b).

Previous preliminary studies (Bhandari et al., 2011; Shields, 2012) have suggested that study abroad is the most popular option simply because the notion of taking classes in a foreign country is most appealing to our local students. As mentioned previously, 9 out of 10 of students leaving Brunei chose the study abroad option. Most of our local students aspire to study abroad particularly to developed countries such as the UK, USA, Australia, Japan, and Korea and so forth. The discovery year offers such opportunity. The ratio of students choosing the Community Outreach Programme (or COP) and Internship is rather low with only 5% each. There are several contributory reasons to these relatively low ratios. One notable reason lies in the difficulty in obtaining visa for both these types of activities, as most countries recognise such activities as employment. In particular if these activities are not arranged through Partner University. The lack of proper learning objectives and assessment also contributed to these low ratios. The issues of credit transfer and contact or working hours further complicate matters.

From the experiential point of view, study abroad is perceived by our students to be the most engaging, as they have more interactions with their international counterpart. However, these might not necessarily be true if they chose the other activities. Broadly speaking, discovery year brings about multiple facets of benefits. Students get to learn and experience in how to live abroad and they are forced to be independent. Their self-confidence and in turn, their personal growth may increase as a result (Dyer & Peters, 2004; Hadis, 2005; Bandyopadhyay & Bandyopadhyay, 2015; Kamdar & Lewis, 2015). They also get a first-hand experience of life outside Brunei. More importantly, discovery year instill global citizenship (Cusick, 2009; Kell & Vogl, 2012; Wynveen et al., 2012) in our students.

A global citizen is someone who identifies with being part of an emerging world community and whose actions contribute to building this community's values and practices (Brigham, 2011; Shultz & Jorgenson, 2008). In today's interconnected world of economics, politics, and finance, thanks to the advancement in technology, the role of global citizens cannot be underestimated. In short, the world faces complicated problems whether it is poverty, food security, global warming, energy security or terrorism. Such problem requires concerted and well-coordinated efforts from various parties. Thus, having a global mindset is necessary to ensure effective handling of these global problems. With regards to this matter, we strongly believe that youths play an important role, as our youths today will be the future leaders tomorrow. By bringing a group of youths from various nationalities through the study abroad programme will no doubt promote mutual respect and appreciation of one another's culture. Another advantage in doing stints overseas, often being underestimated, is the benefit in picking up a new language. This not only enables students to have a more immersive experience in their host country but also may increase their employability and marketability in the host country. Being multi-lingual opens up job opportunities in foreign affair ministry, foreign missions, diplomatic services, translation business, and many more.

The Community Outreach Programme (or COP) is about giving back to society and contributing to societal development both locally and globally (UBD, 2013e). Under the COP, UBD students undertake many

different projects within the assigned communities, from teaching English Language to building 'hut' library and basic infrastructure. Teaching English Language in remote parts of some of the ASEAN nations is one of the most popular options. Brunei, blessed with the abundant of natural resources and a small population, has one of the highest gross domestic product (GDP) per capita in the Southeast Asia (OECD, 2013). Notably, it has one of the lowest poverty rates. During the COP, our university students get first-hand knowledge of the real poverty suffered by some of their own students. For example, lessons were being conducted in makeshift 'hut' schools, built by the villagers. Their students have very poor command of English and almost no access to the outside world. This is indeed a useful life lesson in poverty, which our university students will not get to experience back home. With limited teaching and learning resources available, our students have to improvise and thus the entrepreneurial (Ediagbonya, 2013) mindset will inevitably be instilled in them. In addition, our students' contribution does not end there. Our students also interacted with the villagers, whose main and only source of income rely on agricultural products. As a consequence, the villagers often impart basic marketing skills and knowledge to our students. It should then be stressed here that our students and the villagers co-learn from one another regarding basic survival skills.

Another important component of discovery year is internship. Often, our students do internship locally and it is mostly in the public sectors. Like most oil and gas producing country, there are a limited number of industries other than those related to oil and gas. As a result, internship opportunities are rather limited in the private or multi-national companies based locally in Brunei. Thus, overseas internship offers much appealing ventures and the experience brings about multiple benefits. Most importantly, it enables our own students to experience a different working environment, culture, ethics and ethos, which they might not be able to experience back home. Our students also have opportunity to be involved and experience internship in an economically powerhouse country, which could potentially be our next most important trading partner, and at the same time fostering global networking. Specifically, for our business and economics students, they understand the global credit crunch more as a result of their internship stints.

It must be stressed that the job scopes of our students' internship varies considerably. We have a few students working in a multi-national corporation on environment-related issues such as global warming, coastal preservation and so on. We also have students doing logistical arrangement for massive humanitarian drive in major disaster-hit areas. Despite the varying scope of work, there is one commonality emerging from their stints. And this entails their increased understanding and appreciation on global issues ranging from climate change, financial crisis, and global warming to food and energy securities. Moreover, their knowledge on these issues ate being put to test and horned in a live environment.

Another important activity undertaken during discovery year is the incubation project (Sun et al., 2007). In addition to the conventional teaching and learning, UBD also provide platforms for business and technological ideas and dreams to materialise and flourish through the incubation programme. To date, many technological innovation 'starts-up' (Nabi et al., 2006) have been established. Some have gone on to become very successful with international clientele thanks to the advancement in technology and logistics services. Several successful incubation projects are the building of solar powered and hydrogen-powered cars (UBD, 2013f). The essence of these projects is the cross- and trans-disciplinary collaboration. For example, the engineering and natural sciences group of students are responsible for the actual designing of the car as well as building of the engine, while the social sciences group of students will assess the impact on environment produced by the car. In addition, the business and accounting student groups will work together to ensure the economic viability of the car. It should be noted that one key feature of this car is that it is environmental friendly and thus making multi-disciplinary collaboration necessary. This is aligned with one of the key qualities that GenNEXT hopes to instil in our students, for instance, environmental awareness.

Lastly, our study abroad programme is the most popular programme amongst our university students. The choices and our students' involvement span 6 continents with over 70 partner universities (UBD, 2013d). It brings together a diverse group of students under one campus, and thus creating a vibrant and multi-national campus life. In broader terms, it also allows our students to better understand the cultural, social, financial and political system of the host country. To summarise, the discovery year is crucial in building the global citizens mindset amongst our students. It should also be emphasised that cultivating global citizenship is not just about promoting student mobility. It is about changing the mindset and attitude. A global citizen has

many desirable traits such as being very knowledgeable in global issues, and having high self-confidence among the many. More importantly, a global citizen not only appreciates and respects other cultures but also accept diversity and difference that may result from the differences in cultures and beliefs.

AMONG THE MANY CHALLENGES AND BARRIERS ENCOUNTERED

Despite the obvious benefits of discovery year, many challenges still remain. The notion of global citizenship is still very much an alien concept amongst the staff and the university collectively. Traditionally, universities are geared towards preparing students to pass examinations. And the holistic development of a student may still be lacking. A good and forward minded university should and must prepare their students to pass the biggest examination of their life, which is the life examination itself. Thus to produce global citizens, the entire education system may need to be modified so as to make it more relevant to contemporary life and global challenges. And at the same time provoking creative and innovative thinking for both the students and faculty academic staff alike. The faculty academics need to be global citizens themselves in order to lead by example. Hence, there is a need for academics to undergo executive professional development training to ensure their teaching methodology and pedagogy continues to stay relevant. They also need to be kept abreast of the latest developments and trends to ensure that they can keep up with our increasingly 'tech-savvy' students.

CONCLUSION

The discovery year is an integral part, not just for the student's time in the university but also for their life journey. Students learn life-lessons, which they will not be able to learn in the classrooms. Overall, the discovery year has achieved its main objectives in broadening our students' perspectives and in increasing their employability. From the university's point of view, the discovery year has significantly raised our university's visibility and our international profile. In moving forward, the learning objectives of the discovery year need to be improved and revised accordingly in order to formally inculcate global citizen-ness. If possible, the way our students are assessed during the discovery year needs to be re-thought and revamped drastically. More importantly, the mindset that the discovery year is merely about going overseas and getting the credit or grade transfer needs to be eliminated. In the long run, the discovery year should be viewed as foundation to cultivate and intensify students' interests in global issues. Through this, hopefully a generation of thinkers can be created in order to align with our national vision that is to be a knowledge-based economy.

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Distance Education Of Social Work: A Critical Analysis

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ABSTRACT
Social work in the most general terms is an applied science and profession through which a range of services organized in order to provide the individual, family, group and community to meet their needs and to resolve the problems by creating laws and regulations for the benefit of client systems. The social work education, forming, supporting and enhancing the science and profession direction of social work, has the purpose of raising professional staff and scientists through undergraduate and postgraduate training. This process, in general, has a structure based on quoted and developed skills, and values, theory and practice of communication and interaction between the parts participating in the raining of social work. The practice of education offers students of social work gaining experience in the field and improving themselves.

Especially in the last five years the need for the profession of social work has increased in Turkey; the lack of professional staff, who will meet the needs, has revived opening of social work departments at the universities. In the "Workshop on Development of National Standards for Social Work Education (2012)", it was stated that opening new departments without adequate infrastructure (teaching staff, building, class, etc.) is a significant problem for social work education. As a way to resolve this problem and needs a group of academicians have been raised that distance education can be created and generalized by taking into account the educational opportunities because of a variety of lack of infrastructure, can be achieved by means of this method which is may be more suitable in terms of time and cost. On the other hand, some of them are against to this approach because of the qualifications of social work education and different advantages of training at university.
The aim of this study is to analyze components of social work education and distance education of social work.

Key Words: Social work education, distance education, online learning, distance education of social work.

INTRODUCTION

According to IFSW (2014)'s global definition of social work; *"Social work is a practice-based profession and an academic discipline that promotes social change and development, social cohesion, and the empowerment and liberation of people. Principles of social justice, human rights, collective responsibility and respect for diversities are central to social work. Underpinned by theories of social work, social sciences, humanities and indigenous knowledge, social work engages people and structures to address life challenges and enhance wellbeing"* (http://ifsw.org/policies/ definition-of-social-work/:17.06.2015). The need of social work is increasing day by day because of the changing conditions of the era, increased needs and human problems. Training of professionals to meet the need of social work is also becoming increasingly important.

The first school of social work was opened in 1961 at the University of Hacettepe in Turkey. Another department was opened in 2002 in Baskent University and the number of social work bachelor degree program is raised after that. The reason of this increase is to need of social workers to cover the deficit of professional and to increase service delivery quality. However, it was observed that new bachelor degree programs experienced some difficulties related to the numbers of academician and being academicians from outside the social work. To eliminate this, some academicians have gone to part-time courses in these programs or through a student exchange program students were able to take courses from other social service programs. Last point of the current debate in social work education in Turkey is that distance education of social work is possible or not. In this study, for this purpose, the basic components of social work education, the contents of distance education/online education and applicability of distance education of social work in Turkey is made a critical analysis.

The Basic Components of Social Work Education

Social work education is an active process. Basic knowledge of theory application integrity, skills and values, is transferred through mutual communication and interaction between the parties participating in the training

(Çelik, 2011: 220). In this case East and Chambers (2007) define social work education as *"social work education is a science, an art form and a passion"*. The nature of social work education arises from the mutual communication and interaction via active discussion and application of scientific and dealt with in a creative background. Education parties who are involved in investigation of knowledge, production, development, sharing and application, accept mutual learning, development and changing mission and use within certain values in the area of democratic interaction.
In the social work education process, at the side of theory courses there is also application courses. For this reason, students can find a great opportunity to observe social workers in institutions and practice with them. The most common and simple words, face to face interaction, training of values and practice dimensions of social work makes its education different from some other occupational training.

The Contents of Distance Education
Distance education can define in many terms. Some scholars prefer online learning, some prefer open learning. Daniel (1999: 292-293) explains the term of open learning and emphasizes the difference;

> *"The term 'open learning' stands for the general aim of opening up education and training more widely. Distance education, on the other hand, is one means of pursuing some dimensions of openness. (...) A simple way to summarize scholarly reflection on these terms is to say that open learning may or may not involve distance education whereas distance education may or may not contribute to open learning."*

In this study, it is preferred that using the term of distance education as the means of defining where students and instructors together in different time and place, flexibility, accessibility and actually styled in a way that expresses the remaining training outside formal education.

There are some important points in the contents of distance education such as student/learner, tutor, public perceptions about distance education and profile, faculty and faculty view of distance education, technological opportunities, funding for distance education, political regulation about education and distance education.
The roles of tutor in distance education are generally undervalued. Because there can be a tendency of tutor seen as just giving feedback or grade students' work. Lentell (2003: 67-68) transfers some main roles of tutors in distance education;

> *"(...) ensure students gain a thorough grounding in the subject; provide students with academic support in the subject; help students explore the links between this module and other modules; help students integrate practical work experience with academic knowledge. Subject tutors are not required to deliver the curriculum – this is the task of the study guides – but to facilitate students' learning. This is done through: sensitive and full commentaries/feedback on students' assignments; being available on the phone or via email so that students can contact tutors for advice; introducing the key learning points of the module at the two residential schools associated with the module, and devising group and individual sessions to assist understanding of the module; maintaining necessary contact with your students' tutor mentors."*

The other important points of distance education are students/learners. Student's learning motivation and using technology are very important in distance education because it is different from formal education style. Students have to research and find the information, participate in group discussions and adjust their time and way of study on their own. Mills (2003: 109) emphasizes changes on student behavior over time and requirements of learner supportive distance education. In his opinion, student behavior characteristics were as follows in the past; *"respectful of academics, compliant, loyal, accepting (of institutional errors), committed to the long haul, worked within the system, no IT skills, no IT access, no bench marks for quality of support"*. According to his today's student behavior characteristics are as follows; *"demand good teaching, expect personal services, disloyal, assume their needs come first, impatient, will leave and go elsewhere, IT literate, IT access increasing rapidly and huge expectations of quality"*. As it stated by Mills (2003), changes of students' behavior and technological developments beat a path changing the training methods.

In additional to changes of students' behavior and technological developments, public perceptions about distance education and institution view of distance education are important contents for distance education. It is necessary in order to provide distance education as a training method, it must be requested by public and must be offered favorable conditions by faculties/institutions. Therefore it is important for both public and faculty to determine their expectations and perceptions of distance education. Another important point in the contents of distance education is technological opportunities. Here it is required to be specified that not only have advanced technological materials but also widespread and effective functioning of the Internet network. Other components associated with them are also funding and political regulations about distance education. If it is thought developing distance education method as a requirement of this era, it should be provided the best possible education and everyone must have equal access rights.

Distance Education of Social Work: A Literature View

In literature generally, it can be said that there are positive approaches to effectiveness of distance education in social work. There are no significant differences between formal education content with the content of distance education (Tuncay, 2011: 104). *"According to Frey, Faul and Yankelov (2003) research is needed to convince the Council on Social Work Education that e-learning can be an effective way to meet outcomes in social work education"* (Anderson-Meger, 2011: 24).

Considering the historical development of distance education in social work, it can be said that development was slow and social work academicians were suspicious about providing social work outcomes. However, *"distance education in social work was advanced significantly during the late 1980s, primarily as a result of the growing use of computer networks and interactive compressed video systems"* (Raymond, 2005: 29). As it mentioned by Anderson-Meger (2011: 18), *"The Council on Social Work Education Committee on Research and Instructional Technology completed a survey of 501 social work BSW and MSW programs to determine the use of distance education in social work programs. A 27% response rate indicated that almost all of programs were either using some form of distance education or planning to implement distance education in the near future"*.

Most of the studies in the literature are related to compare distance education programs with formal education programs. Significant findings related to distance education in social services has been obtained in a study conducted in the United States (Vernon et. al 2009). It was seen that 220 bachelor degree and 133 master degree courses, most of them are elective, is delivered by distance education methods. In this context, a significant proportion of the courses (20%) practice course. It was found that some given courses such as social work ethics, social work with at-risk groups, interview techniques' rate were lower. Whereas, it was seen that some courses such as social policies (14%), human behavior and the social environment (13%), research (10%) were handled intensively. The technologies used in social work education also demonstrate variations. It is used most widely online (72%) distance education technology in undergraduate and graduate-level. The lowest percentage only interactive television (9%) and the remaining (19%) are used television and online technologies in their distance education.

However most researchers (e.g. Banks & Faul, 2007; Coe & Elliot, 1998; Frey et. al 2003; Huff, 2000; Macy et. al 2001; Madoc-Jones & Parrott, 2005; Maidment, 2005; Otterholm, 2009; Woehle & Quinn, 2009; Wolfson et. al 2005) discuss the contents of the distance education social work and compare with the formal education outcomes. In general, distance education in social work is met moderate. Researchers emphasize advantages and disadvantages of distance education in social work. The next title, these advantages and disadvantages are discussed in comparing with Turkey's conditions.

Applicability of Distance Education in Social Work in Turkey: A Critical Analysis

Pennells (2003) points out some issues and challenges in adjusting to new technology in supporting learners in developing countries. In his opinion, equity, costs to the student, the burden on support staff, educational quality, institutional learning and change are challenges of applicability of distance education. In terms of Turkey, assessment can be made out of similar titles.

Students' accesses to distance education and pay the required fees raise the equity issues. Considering that even experienced various difficulties in participating in compulsory education in Turkey, can students and

their families' have enough power to meet the higher wage distance education compared to formal education? Because *"the costs of printing and binding material if desired, having a suitable computer and maintaining or paying to access Internet, computer facilities and services"* (Pennell, 2003: 158) and it can be expensive. The other issue about students is their learning motivations. When looking at the general student profile in Turkey, students are accustomed to directing. Very few of them investigate a topic which is outside of their subjects or homework.

Another challenge of applicability of distance education in social work is about the burden on support staff. *"Skills in on-line course design, management and learner support need to be developed in the academic, technical, counseling and administrative staff involved, and students need to acquire on-line study skills"* (Pannell, 2003: 159). Therefore, the infrastructure arrangements have been made, reliable and uninterrupted internet access should be provided from anywhere. It is very important that usage of technology by students and also being properly configured for remote training materials by professionals.

Another challenge of applicability of distance education in social work is about educational quality. This issue is related to infrastructure arrangements, structured course materials and students' technology skills, of course. "*Computer conferencing provides an opportunity for linking students from different professional and personal backgrounds, countries, languages and abilities. It also enables constructivist approaches to course design and support to be adopted effectively"* (Pennell, 2003: 159). For educational quality, students' profile (their needs and features) must be well defined. Additional regulations are necessary for some social work courses which will be insufficient given in the only theory dimension such as social work field practice, social work ethics, interviewing methods. Even while there were some difficulties about these courses in formal education which based on face to face contact with students, it is questionable how effective can be given these courses in distance education.

Efficient communication, constructivist learning, flexibility, reducing isolation, students' experience, rather than only read about on-line learning (Pennell, 2003: 163-164) may be potential benefits of adopting new technology for social work courses. However, funding, public perceptions and profile, offering students up-to-date learning, the web as a mainstream medium and competition in a global market are environmental pressures to adopt new technology (Pennell, 2003: 164-165).

It can be said that in terms of distance education is a new field in Turkey and urgently and appropriately needs to be developed. The distance education in social work seems to be kept up to date to more controversial feature for Turkey for a period of time. Because of both the distance education opportunities in Turkey and the educational content of social work will lead to driving the discussion.

CONCLUSION

Distance education confronts us as a requirement of age. While distance education initiatives are based on past and progress rapidly abroad, it can speak of a late progress in Turkey. It is seen also late progress in distance education of social work because of social work is a science and profession based on the application. Social work education is focused on interaction, communication, and practice. Knowledge, skill and value based of social work are learned by theory courses and enhanced by practice courses.

There are some advantages in distance education such as access to education in flexible hours, more student participation, highly learning motivated students' profile, the ability to achieve unlimited resources, making discussions in a wider group and moving away from traditional methods of discipline. And also there are some disadvantages like inequality power of access to information, student isolation, lack of ability to interaction and communication in class, practice effectiveness, staying away from education for failure to pay education costs.

The considering the previously mentioned problems of social work education in Turkey, simultaneous video conferences as distance learning methods can be considered as a solution. Students can attend courses that are given by the social work academician simultaneously in distance and ask questions or join discussions like students who are in given lesson class. On the other hand, this solution is about theory courses for now. In addition, student exchange program should use efficiently and social work academicians must be trained

immediately. Besides, the establishment of a national social service association is very important and necessary for social work and its client groups.

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Ecologically Sustainable Development In The EU

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ABSTRACT
Ecologically sustainable development is based on the value of attitude, which is called the ecology of man's well-being. For this reason, ecological policy is also one of the most dynamic spheres of public policy in the EU. The need for all of us to protect the environment and the social environment for future generations is a strong impulse for establishing starting points of environmental economic policy in Slovakia. This article is trying to draw attention to the view that the economic crisis can quickly turn into ecological crisis with much worse and irreparable consequences. Appropriate and measurable ecological indicators contribute to better direction of policies leading to sustainable development.

Keywords: ecologically sustainable development, indicators, ecological footprint

INTRODUCTION
Ecologically Sustainable Development (ESD) represents one of the greatest challenges facing whole of the world´s governments, business and communities. Humanity affected by the growing consumerism, new technological and technical developments, development of science and research, and in the economic field, primarily oriented on the profit, though short-term, fails and many times does not want to see devastating consequences of its activities on the environment. Growing population, high intensity agricultural production, climate change, etc. are trends that might lead many countries to „water crisis" (Ijjas, 2015). Forecasts of the overpopulation of Earth, exhaustion of production factors and wasting goods and services mean for many only statistical numbers, without a real threat. The results of economic growth are undeniable. But the consumption of an average person is several times higher today than a hundred years ago, for example, feudalists. However, we create current well-being at the expense of the future, while signals drawing attention to the devastating consequences of this activity cannot be even clearer. One of them is also represented by turbulent responses to global financial and credit crisis, and as a result there has been a decrease in the consumption of raw materials, goods and services, decrease in industrial production and then decrease in export, rising unemployment and other economic problems, which have affected the vital life of each of us. It is the worst thing that can happen to us? Is it enough that the EU banks reduced interest rates and adopted various economic measures to increase the competitiveness of the countries? Are we able to provide economic growth, or at least achieve sustainable development? How it change companies and customers relationships? This is because nowadays "the company does not automatically become customer oriented and customers don't become more loyal or gainful for company." (Kubina&Lendel, 2012) What should be the objectives of the ecological policy and what is the success of the EU countries to fulfil these objectives?

THEORETICAL BACKGROUND
The official U.N. definition of sustainability has three dimensions: environmental protection, economic development and social equity (World Commission on Environment and Development, 1987; Bulla et al., 2006). Effective environmental political support is necessary to reach aims of ecologically sustainable development. Environmental policy includes a set of procedures, tools and resources, which indicates the priority, concepts and defines control mechanism of the Government in providing environmental care (E). Considering the absence of preventive actions in the past and constant collection of negative impacts on the environment, the measures of environmental policy are primarily aimed at their elimination, mitigation and preservation of existing state. Whereas the environmental issues arose mainly as a result of industrial

activities of man; in order to achieve economic prosperity, the mitigation of their adverse impacts is linked bidirectionally with the interventions in the economic, social, as well as in the social sphere. In addition, the global nature of environmental pollution requires a worldwide consensus on solutions as well. The history of environmental policy of the EU dates back to the 70's of the 20th century and is based on so-called environmental action programmes containing the medium-term strategic objectives, usually in 5 years period. Action programmes for the protection of the EU environment are determined by the priority objectives for the implementation of strategies for sustainable development. *Sustainable development (SD)* means a "targeted, long-term (continuous), comprehensive and synergistic process affecting conditions and all aspects of life (cultural, social, economic, environmental and institutional) at all levels (local, regional, global) and towards a functional model of a certain community (local and regional community, countries, international community) that efficiently satisfies biological, physical, spiritual and social needs and interests of the people, and eliminates or greatly reduces interventions threatening, damaging or destroying the conditions and forms of life, does not burden the land above the acceptable rate, uses wisely its sources and protects cultural and natural heritage." *(NS TUR SR, 2001). From the point of view of Economics, SD is an economic growth, which does not harm or actually worsen the quality of the environment. The long-term priorities for the achievement of the SD, among others, include balanced territorial development, new model of economy and the protection and rational use of natural resources, which focuses on the area of energy efficiency and mitigating the negative impacts of climate change. Nowadays the 7th Environmental Action Programme (EAP) gives more long-term directions and sets out a vision beyond that, of where it wants the EU to be by 2050. "*"In 2050, we live well, within the planet's ecological limits. Our prosperity and healthy environment stem from an innovative, circular economy where nothing is wasted and where natural resources are managed sustainably, and biodiversity is protected, valued and restored in ways that enhance our society's resilience. Our low-carbon growth has long been decoupled from resource use, setting the pace for a safe and sustainable global society." (7th EAP)

1.1 Development of eco-economic policy

Politicians, economists and environmentalists have different opinions on the creation and implementation of environmental policy. Liberal economists say while world trade would not exist without the sustainable use of natural resources, either the environmental protection is not possible without the resources generated in the context of trade. According to them, if there are applied correct procedures, then the trade is environmentally neutral and therefore they refuse measures to environmental protection at the expense of their commercial activities. They continue to search for opportunities for economic growth and there are mostly governments of the developed countries, international institutions and multinational companies standing on their side.

On the other hand, more radical representatives of environmental policy call for the need to protect the environment by reducing international trade and reorientation and diversification of economies so that the small volume of production made at the global level. They point out to the excess consumption in the developed countries and the increasing level of poverty in developing countries, because the economic benefits of trade is not divided fairly among countries or among the people within the country. In addition, they claim that the growth of the wealth produced by the trade will lead to the growth of consumption of natural resources over the environmentally sustainable level. The carriers of these theses are usually members of civil associations, activists of local initiative, who considered a higher participation of the public in decision-making about the environment important.

Next, so-called reformist environment approach suggests harmonising interests of the environment with the requirements of economic growth. It enforces internalisation of environmental costs, as part of the cost of production, so that the market can more effectively deal with input sources. It supports established environmental standards (emission penalties for pollution of water, air) and the implementation of multilateral environmental agreements. The EU's priorities for the years 2005 – 2010, which were developed by the Barroso Commission are based on the this approach, with emphasis that different goals of the Lisbon agenda (economic growth, environmental and social goals) were supported by each other.

A study of FFEK ELTE (ffek – online, 2010) notes that "people who were born after 1960, there is a great probability that they will die as a result of the epidemic, famine or violence". Why appeal to people who were born after 1960? Yes, the truth is that it is a good sounding and populist argument to draw attention. On the other hand, the reality is that just the years are so young to have already felt the negative effects of environment destruction and realise the real need for its protection and the introduction of the changes and

the reorganisation of economic activities. The current traditional economy, which is largely industrial economy, creates an unsustainable model of the management of natural resources. The famous statement by M. Friedman's, "the business of business is business" confirms the profit orientation of current economic activities of the entities, i.e. makes a profit at any price despite the limited conditions, even short-term and at the expense of long-term damages made to the environment. The consequences can be removed only by changing the position of the economic actors who adapt the new model, so-called environmental economy, or sustainable economy model. In order to establish goals and instruments of environmental policy, it is therefore necessary to gather amount of information monitoring particular areas of environment that the decisions and measures could be of high quality and beneficial.

METHOD, DATA AND INDICATORS

The creation of economic policy means to co-ordinate both environmental, and economic and social aspects of human activities and their interdependence. Numerical basis for creating and measuring the success of the eco-economic policy are given by the analyses of indicators developed and evaluated on a regular basis by the OECD, EEA, EUROSTAT, and other non-governmental organisations. They provide a benchmark for Governments at the national level on how close and successfully established their environmental policy objectives. The indicators include:

Indicators of sustainable development (SDI) that in addition to the environmental (19 indicators), social (18) and institutional (6) pillar, collect and analyse economic data (14), e.g.:

- on the performance of the economy (GDP per capita in purchasing power standards),
- **on the rational use of natural resources (**mining and energy stocks of raw materials, ore, mineral and construction raw materials),
- **on the use of energy and tools for its rational use (primary** production and the use of renewable sources of energy, production of electricity, energy intensity of the economy, final energy consumption),
- **on waste production and handling** (origin and dealing with radioactive waste and irradiated nuclear fuel),
- **on the environmental transport of persons and goods (performance** of freight and passenger transport, distance travelled per capita according to the types of transport).

One of SDI indicators is for example is in fig. 1 Share of renewable energy in gross final energy consumption (%) which is calculated on the basic of data covered by Regulation (EC) No 1099/2008 on energy statistics.

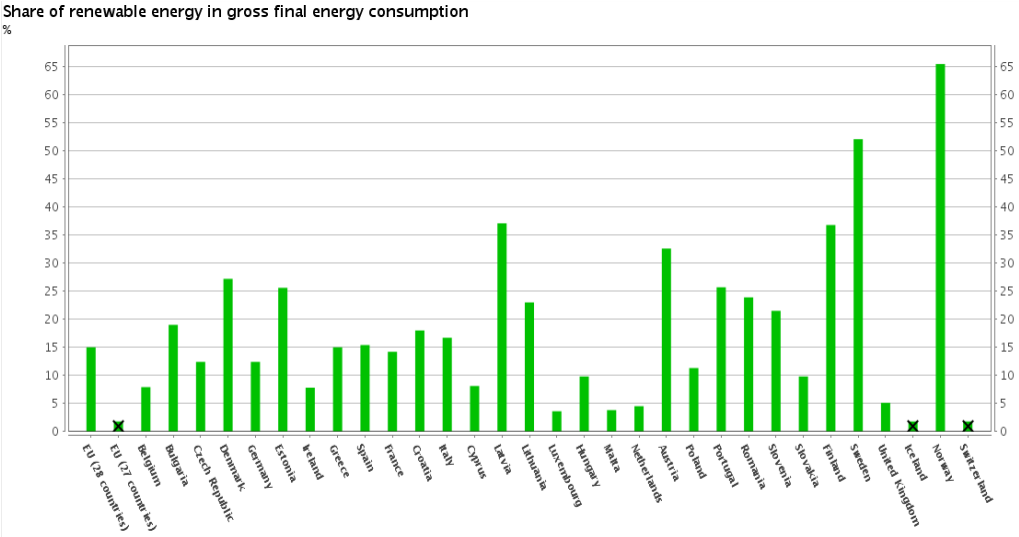

Fig. 1 Share of renewable energy in gross final energy consumption (%) – 2013 EU
Source: EUROSTAT (2015)

Indicator of environmental sustainability (ESI) is an aggregated indicator, published since 2001. It was developed by an international group of authors, and the resulting index of environmental sustainability is calculated as the average of all 25 indicators monitoring environmental policy, public health and ecosystem

vitality. When comparing 163 countries, the EU countries placed at the forefront in 2010. Although Iceland (93.5) is placed at first position, Sweden (86.0) and France (78.2) are also examples of how economic growth can be combined with high quality social policy and strong regulation of environment. Belgium (58.1 – 88th place) and Cyprus (56.3 – 96th place) took the worst place of the EU countries, and the overall world rankings closed Sierra Leone (32.1).

Table 1. Places of the selected EU countries according to the ESI in 2010

4. Sweden - 86,0	12. Finland – 74, 7	18. Italy -73,1	25. Spain-70,6
7.France-78,2	13. Slovakia – 74,5	19. Portugal -73,0	32. Denmark - 69,2
8. Austria – 78,1	14. Great Britain – 74,2	21. Latvia -72,5	33. Hungary - 69,1
11. Malta – 76, 3	17.Germany – 73,2	22. Czech rep. -71,6	37. Lithuania - 68,3

Source: http://sedac.ciesin.columbia.edu/es/epi/downloads.html#summary

Sector indicators of environment are derived from the relations of **DPSIR model**, based on the principle of causality, i.e. showing the cause and effect impact of human activities on the environment:

- D (driving force – i.e. process triggers in society)
- P (pressure in the negative or positive sense on the environment)
- S (state – that leads to deterioration of the environment)
- I (impact – impact on human health, ecosystems, biodiversity creating a desire for their elimination and remedies)
- R (response – is the final step of the causal chain and points to the extent of how the actors reflect on the negative changes in the environment)

Then, these indicators form the basis for the development of so-called sector reports in the area of transport, energy, industry, agriculture, forestry, tourism, etc. "There is a possible contribution of TQM to the performance and sustainability." (Tan, Wong, Choong, 2015)

Ecological footprint is based on the assumption that it is possible to establish the quantitative majority of consumed resources and produced waste and the most of these resources and waste is possible to turn on the ecosystem necessary to ensure vital systems. It indicates "how much of the total area (land and water ecosystems) is necessary to ensure continuous sources people need to their current lifestyle and for disposal of all waste they produce" (W. Rees , 2000)

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Table 2. Ecological footprint of the EU member states

Country	Ecological Footprint of Production (gha per person)	Biocapacity (gha per person)	Net exports of Ecological Footprint (gha per person)
European	4,6	2,3	- 2,3
Austria	5,0	2,9	-2,1
Belgium	5,1	1,1	-4,0
Bulgaria	2,7	2,8	0,1
Czech republic	5,4	2,7	- 2,6
Finland	5,2	11,7	6,5*
France	4,9	3,0	-1,9
Germany	4,2	1,9	-2,3*
Greek	5,9	1,7	- 4,2
Hungary	3,5	2,8	- 0,7
Ireland	6,3	4,3	-2,0*
Italy	4,8	1,2	-3,5
Netherland	4,4	1,1	- 3,3
Poland	4,0	2,1	-1,9
Portugal	4,4	1,2	- 3,2
Romania	2,9	2,3	- 0,6
Slovakia	3,3	2,8	-0,5
Slovenia	4,5	2,2	- 2,3
Spaon	5,7	1,3	- 4,4
Sweden	5,1	10,0	4,9
Great Britain	5,3	1,6	- 3,7

Source: Global Footprint Network 2010, Ecological footprint Atlass 2010

Table 2 compares ecological footprint with biological productive capacity of individual EU countries, on the basis of which it is possible to determine whether a country is in ecological deficit (uses more than it has) or it has ecological reserve. The values of Slovakia and the Czech Republic show deficit. The WWF report of 2008 says that the ecological footprint of the human population exceeds production capacity of biosphere of 25%, it means that we would need 1.25 of the planet to cover all sources and absorbing all the waste. So far, it is possible to cover global overdraft at the expense of "capital stock", i.e. forests, fertile land and water, which is unsustainable in the long term.

FINDINGS

The growing population and limited resources are clearly talking about the short-sightedness of humanity, which caused that economics and the environment are located on the edge of sustainable development. Although thanks to this short-sightedness the production and subsequent consumption have increased so far, but our current prosperity is created by the debt that future generations will have to pay. According to experts, financial crisis is an indication of ecological crisis because financial indebtedness allowing increasing consumption in the long term exhausts resources. Therefore, the tools of EU environmental policy focus on the systematic solution of these problems. In general, they are:

- Economic tools in the field of the rational use of water and the protection of its quality (e.g. remuneration for the consumption of water from watercourses, groundwater, waste water discharges into surface waters, water and sewer rates).

- Economic tools applied in the air protection (e.g. charge for air pollution - large and medium-sized sources, as well as small sources of pollution).
- Economic tools in the waste management sector (e.g. local charges for garbage disposal, waste disposal in landfills and storehouses).
- Back-up systems of beverage packaging.
- So-called eco-taxes related to the environment (e.g. tax on hydrocarbon fuels and lubricants, tax on motor vehicles used for business, differentiation of tax rates for the products of the protection of environment).

The key tools of environmental protection within the EU currently include:

- *EIA – Environmental Impact Assessment)* according to Council Directive No. 85/337/EEC. It is based on a systematic examination of the impact of business plan on the environment.
- *Community eco-label award scheme (eco-label)* according to Council Regulation No. 880/92/EEC. If a product / service is more environment-friendly as other products / services during the entire life cycle, an enterprise can use a mark of environmental-friendly product in the framework of marketing activities.
- *IPPC – Integrated Pollution Prevention and Control* according to Council Directive No. 96/61/EC. The technical level of equipment in the industry shall be compared with regard to the maximum use of raw materials and minimization of energy inputs and integrated permits shall be awarded in the administrative procedure.
- *EMAS – Eco-Management and Audit Scheme is* Regulation (EEC) No. 761/2001 of the European Parliament and of the Council allowing voluntary participation by enterprises in the system, which includes monitoring, management and gradual reduction of the impact of the activities of the enterprise on the environment. In addition, the environmental statement processed shall be verified by an accredited verifier.

DISCUSSION

The actual steps of the EU's environmental policy are focused on the implementation of the Seventh Environmental Action Programme to 2020, which continues to strengthen and completes the principles declared by the Maastricht Treaty (or Amsterdam) and were confirmed by the Lisbon agenda. These are the following fundamental principles and their observance: *polluter pays principle, sustainability principle, and principle of a high level of protection, precautionary principle, principle of the protection of the source of pollution as close as possible, subsidiarity principle, integration principle, and principle of caution*. The ambition of the EU countries is to create mechanisms for the achievement of the environmental objectives, which in some cases even exceed the objectives of the Kyoto Protocol and consistently comply with the schedules to reduce specific pressures on the environment. These include objectives, for example:

- to reduce greenhouse gas emissions by 20% by 2020
- to draw 20% of primary energy from renewable sources by 2020,
- to increase energy efficiency (produce from renewable sources) and reach 20% of primary energy savings by 2020.

On the basis of the discussions of the general public and, in particular, experts from the economic and environmental fields, the Seventh Action Programme of the EU for the period 2010-2020 focus in particular on:

- ensuring mechanisms to reduce the ecological footprint of the EU, increasing social progress as well as achieving sustainable state of the environment as quickly as possible,
- strengthening prevention, with the emphasis on the principle of "polluter pays principle" and the principle of "the protection of the source of pollution as close as possible,"
- determination of clear objectives and schedule for the reduction of specific pressures on the environment through the inclusion of these environmental objectives in individual sector policies of the EU,
- creation of so-called green economy with the emphasis on the strong environmental fiscal reforms across the EU, for example, the introduction of more so-called environmental taxes,
- creation and improvement of the legal framework for the policy of the environmental of the EU and its implementation at the national level,
- increasing investment in natural capital and creating programs for the use of EU funds in this area,
- restoration of the view to regulatory measures and their combination with market tools.

3.1 Investments to the protection of the environment – a cure after the time of economic recession?

According to experts, the global financial crisis is only a foretaste of much worse ecological crisis of the planet. It is possible to continue in orientation in this situation only for profit and do not worsen the current state of the environment? It seems that even a radical change of perspective on the use of production resources can bring benefits. According to representatives of the EU, investments in a "green economy" and the increased use of energy derived from renewable sources can activate the economy and start up economic growth. For example in Strategies for the New Green Economy, Joel Makower, one of the world's foremost green business experts, provides a clear roadmap for this challenging terrain. The protection of the environment through eco-projects, the production of environmental-friendly technologies and the creation of jobs connected with the ecology can activate not only markets, but also greatly increase the competitiveness of business and enterprises in the EU.

CONCLUSION

"Today we see before us the world of rapid change and the global economy full of chaos and uncertainty." (Litvaj, Poniščiaková, Stančeková, Drbúl, 2013). This article is trying to draw attention to the fact that the economic crisis can turn very quickly into an ecological crisis with far worse and irreparable consequences. Therefore, the promotion of eco-economic policy is not just a fiction of green activists, but also the only possible solution for economists, the way in which to achieve profits in the future. According to the estimates of the last period, it is even a necessity for all of us to preserve the environment, but also the social environment for future generations. The countries of the European Union do not underestimate this problem; therefore, they create objectives and indicate the specific tools towards *sustainable developments*. The aim of these activities is to support changes in economic thinking, reorganization of economic activities as well as the lifestyle of the people in order to ensure the future of the next generations.

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Educating Through The Body – Developing The Human Heart

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ABSTRACT
¨Education¨ is a process intended to achieve and bring the best out of individuals. But due to a long held Illustration tradition we have forgotten to pay attention to our human development. We have neglected to define what that ¨best¨ might be and to look for the right formula to do this. We have basically focused on developing the best of ourselves by studying different sciences and gathering information and by developing intellectual skills. However our new century demands an effort to find a new formula that will help us get the best of ourselves as human beings by using our human energy, something that should be obvious in a world full of different kinds of energy (solar, electrical, nuclear, and the like). We still have to discover our human energy, multiply it and use it in our contemporary world. This goal should be a complement and an innovation in education since our human energy has driven human development from the beginning of times and has taken us to where we are today. We have created a civilization but now we must learn how to live peacefully and cooperatively so we can control our destinies in this and all the following centuries. This article defends the importance of educating people´s human heart by discovering and using their own physical energy. It explains how Aikido, a contemporary non-fighting martial art, is a formula that can be used in education together with the regular subjects that are part of both formal and informal programs. Aikido is a new educational paradigm intended to help individuals develop a new kind of humanity. It presents general results from a doctoral thesis in education that evaluates Aikido´s potential in education that can help us achieve the best there is in human beings. This work also aims to present some results regarding the use of Aikido in accordance to its particular humanitarian goals.

Keywords: educating through the body

INTRODUCTION

Educating the heart has been a challenge for many centuries. Aristotle is said to have pointed out that education is incomplete without it. A long time after him, the term "education of the heart" (*Herzensbildung)* was used again by the German writer Friedrich Schiller in reaction to the Illustration idea of an education that separated feeling and thinking in favor of using the senses and the mind in a scientific way in support of a logical education. There was also another famous German, Wilhelm von Humboldt who thought about this but preferred to talk about an "education of the character" -*Bildung des Gemüths*-. According to Frevert (2012) in the XVII century the heart was considered as the site of both feelings and character.

Since then, this topic has called the attention of Education because since the XVIII century it was considered that a man had to be physically, mentally and spiritually educated in order to take a step forward in the civilization process. It was believed that education had to cultivate human values and strengths since negative actions due to feelings such as envy, greed, fury, and hatred are known to disturb a healthy pacific life. But since this situation has escalated throughout centuries, contrary to scientific expectations and knowledge, philosophical dissertation and analysis as well as religious directives and efforts, it is evident that the heart still has to be educated. Contemporary people like Sir Ken Robinson (2011) and the Dalai Lama (2013) have talked about their concern about educating both the heart as well as the mind. And about sixty years ago, Morihei Ueshiba (1883-1969) developed a new Japanese activity he named Aikido that is intended to train people in the art of peace and to educate the human heart by making people return to their humanity. Aikido is a highly ethical, secular, and educational system designed to gain consciousness of who we are and how we act as human beings. It also helps to achieve a strong character and a full conviction of the need to think and behave in a universally constructive way in terms of union, confluence and harmony. Seen as a contemporary martial art, Aikido has the potential to train people to react constructively and in full control and balance of their emotions in order to overcome uncertainty, weaknesses, and all kinds of violence.

When talking about the heart it is important to realize that humans are born not with one but two complementing hearts: (a) one is the organ that pumps the blood in our body and keeps us alive, and (b) the other is the impulse, desire and will driving our destinies that can help us to succeed in life and to find

happiness. The most important kind of success we need today is the final elimination of all forms of violence (physical, psychological and verbal) and destructive thinking which points out to the education and professionalization of our own humanity. From an Aikido perspective inhuman people are those people who discriminate, abuse, betray, hide, confuse, and pretend as much as those who are selfish and violent. So educating this driving-human-heart is really important today because it supports our feelings, our emotions and helps us deal with frustrations and animosity. From an Aikido perspective, when people are sad, when frustration is overwhelming, when depression takes over, when betrayal is present or when the truth is hidden or a murder is committed, it is because people have a weak, small and sick heart which lets negative things be in control and makes people use their intelligence under negative and destructive emotions. The Dalai Lama (2013) has pointed out the need of "some sort of education system that may be universal and able to fit in secular education in order to make people achieve both a healthy body and a healthy mind".

Also from this perspective, being able to overcome personal weaknesses is to have a big, strong, and solid heart, and thus a greater humanity. But this kind of heart needs to be trained, something that points out towards physical training as a vital experience. Weaknesses cannot be overcome by means of mental study or scientific approaches and analysis so much as it cannot be overcome by means of psychological intervention or religious teaching. Many centuries ago Aristotle realized that both virtues and defects lie within us and we can cultivate them by force of habit since they are not something innate (Politics, book five).

RE-ORIENTING EDUCATION

The term ¨education¨ comes from the Latin *educare* (to raise/to instruct) and *educere* (to bring out/to achieve) and formal school has traditionally emphasized instruction and cognition over formation and intuition obviously putting aside the intention to bring the best out of individuals in order to achieve human success. In its more general sense education is a form of learning in which the knowledge, skills, values, beliefs and habits of a group are transferred from one generation to the next through both formal and informal learning, storytelling, discussion, research and training. These forms of education, taking place under the guidance of others or carried out through autodidactic learning, are experiences that have a formative effect on the way a person thinks, feels, or acts so they are considered educational. But education needs to be reoriented in such a way that all knowledge, skills, values, beliefs and habits can be guided by the spiritual human heart that leads people to succeed and share with the rest of human beings. As Sir Ken Robinson (2011) has stated, "education is the process by which we give people a sense of who they are and their capabilities, so that life can mean something to them and to the rest of us".

It seems that the concepts included in such a general definition –knowledge, skills, values and habits– need to be reoriented towards the individual self in order to change the current intellectual paradigm for a new one focused on the body so that people can learn to recognize their human energy, to value human skills, to improve their habits and to reinforce their constructive beliefs by means of a formula free from all kinds of violence. The expression "to learn by heart" needs to be complemented by expressions such as "to live/ to act/ to grow/ and to improve/ by heart". Knowledge is defined as "familiarity and understanding of facts, information and also skills and habits of a group" but it is necessary to pay attention to knowledge as "familiarity, understanding, and development of the human heart" too as part of the urgent need of a new set of skills and habits that may benefit the one universal group represented by humankind. The crisis we live in our contemporary world demands this reorientation, a change of paradigm, in order to achieve an integral education that may lead to the professionalization of a human heart driven by full conviction and cultivated by means of a new paradigmatic physical training. Educating the heart requires constant training and hard practice.

Educating through the body is important if we want to reorient contemporary education. Instead of expanding theoretical knowledge we need more experiential and intuitive formation: we need to go back to the individual rather than elaborating new theories about him/her. A change of paradigm may help to change previous primitive behavior, to refine human conscience in people and to achieve a noble heart driven by a new kind of human energy. Aikido was designed to cultivate the human heart by joining it to the center of our body and by making multiple-sided movements intended to make an impact in our brain so as to intuitively lead our lives in a different way. This new paradigm has an ethical system of physical work that

helps strengthen values and virtues and is intended to put people in mutual communication by using a new kind of habit formation training. We need to reinforce knowledge not only as a result of cognitive and referential processes but also as a result of intuitive and constructive experiences. Rather than transferring knowledge through storytelling, discussion and research processes which emphasize discursive and mental procedures it is necessary to transfer it through positive, self-awakening physical activities hidden in the heart of our human nature.

When considering that the next step to improve education to make a better world and to find happiness lies in the development of sensitivity and intuition it becomes evident that a new kind of training is needed. We can try to convince ourselves to be good and change but it is also possible to rely on our body to help us transform ourselves in a direct, active way. Physical training is an important educational tool which has been neglected in the past because it has been mainly seen as preparation for sports and competition. But it can be used for much more than that: it can be used as a means to help us recognize the potential of human energy, improve it, multiply it, and use it in order to grow and succeed in life. From an Aikido point of view training in a different way and with different goals in mind can definitely impact our lives. It is then necessary to consider the development of the human heart as a goal and to turn our attention to care of ourselves and to work with both body and heart.

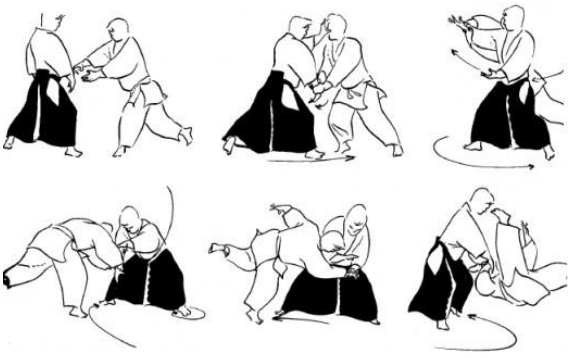


As an activity Aikido inherits the virtues and values the ancient samurai warriors, without the combat goals and skills they used to train for. The balance, stability and control gained through Aikido prepare individuals to face the challenges of life and to overcome human weaknesses. This was also a special physical education formerly reserved for the noble samurai classes of Medieval Japan which Aikido has adapted to meet the needs of our contemporary world in order to achieve human excellence.

SO WHAT IS AIKIDO?

Aikido is a new paradigm in contemporary Martial Arts. It was developed between 1920 and 1969 by Morihei Ueshiba, a Japanese master who devoted his life to design an art free from fighting goals and techniques and changed them to educate the heart (*kokoro*) in order to meet our contemporary need for peace and harmony. Its first forms were developed before World War II and took its final form after the disastrous end of the war. Mr Ueshiba was strongly convinced that our minds needed to be reoriented in order to develop a universal humanity so he designed an activity intended not for self-defense but to create an AIKI culture, a culture of union, confluence and harmony. He realized that since human kind has created a civilization it now needs to learn how to live in it (Escobar, 2002). So he devoted his life to create a paradigmatically new art intended as a particular space and time devoted for human growth.

He saw the need to develop a higher kind of human energy he called KI, a potentially improved "life energy" resulting from the intervention and combination of: (a) *kokoro* (the conscious, imaginative and constructive human heart), and (b) *seika tanden* (the body center located at our lower abdomen). The founder called this union *shin shin toitsu* and he discovered that using it could enable people to create Ki an energy which is also produced by the circular Aikido movements in accordance to the force of gravity and the combination of the expanding and contracting forces known in Physics as *centrifugal* and *centripetal* so that we have this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The use of these universal forces implies taking advantage of the energy found in the universe and the movements practiced in Aikido are intended to be applied absolutely free from human negative intentions and brute, destructive force. By using this new kind of energy a person avoids using the muscular and violent strength and reactions previously utilized for war and fighting; by doing so, it develops the happy and balanced sensation of a body full of a highly noble and superior energy. According to the founder of Aikido this is the energy needed to be used for self-growth and transformation, the energy that pumps constructive strength and solid character into the human heart, in words of Mr. Y. Kurita Yutaka, the last *uchideshi* (live-in student) of the founder of Aikido who teaches at the Kurita Juku school - México.

Aikido teaches that in order to experience a satisfactory self-fulfilled life people must work with their emotions and learn how to develop personal strengths as well as a new set of values based on the no-violence principle. Its goal is to live with integrity and human dignity, according to the strengths and virtues the human driving heart is constituted from. The physical activities of Aikido give people a sense of direction and understanding of their human souls and mindsets embodied by *kokoro* (their heart). And by using it individuals can achieve human excellence and a complementary human professionalization which is still absent in education. The new century demands an education of the human heart if the goal is to really improve societies; if men really wish to be civilized and sensitive they must change first so that they are able to change with others. Only an education of the heart may help us get together, pursue one same human goal, support each other, and achieve mutual growth, benefit and human integration: that is the meaning of the word "AIKI" in Aikido.

If we don´t develop a human heart ourselves how can we expect the world to do it? If we don´t make an effort, how can we expect any improvement? So instead of mere discourse intended to convince, the best way to really accomplish improvement is through a transforming work of the body that implies a real effort, self-conscience and control. Learning and practicing positive physical moves can eventually give people constructive thinking and teach non-destructive actions. This may eventually change our current mind frames centered in the use of selfish violence and destructive competition. Aikido is an activity that can physically transform and improve old frame-minds.

Aikido embodies the qualities and virtues aimed by those interested in spiritual development, it teaches people how to prepare for a great live and not for a big fight, it is intended to help individuals transform themselves and their communities, to gain the will and power to overcome their weaknesses and to defeat their real enemies: laziness, selfishness, aggressiveness, hypocrisy, disrespect, intolerance, corruption, abuse, and many more. That is why Aikido is usually referred to as the "art of peace" since it embodies the unity, confluence, and harmony (AIKI) concept. This means we need to educate people on how to have a competent human heart. By doing so we might be using the secular education system the Dalai Lama is looking for and scholars like Sir Ken Robinson have not yet proposed. Aikido is definitely a secular ethics system based on physical constructive movements absolutely rid of violence, ancient martial forms and useless competition, an element forbidden in Aikido because it creates selfishness, animosity, envy, fury and many other negative emotions. Aikido is meant to give people a sense of who they are and their capabilities.

USING THE BODY TO BECOME COMPETENT HUMAN BEINGS

¨Competence¨ is a common term used in contemporary education to refer to the integral capacity a person needs to act and perform as necessary to solve professional and work problems. But we also need a human

competence that can help us to be in control of life as well as to live in peace and harmony. To be competent in human being terms requires a positive and constructive frame of mind in addition to the referential knowledge acquired in school in order to be in control of one´s own life and to transform ourselves and our societies. As some authors like Pimienta Prieto (2012) say, competence requires skills, attitudes and values learnt both mentally and physically in an ethical context, and Aikido provides practitioners with the most ethical point of view: the rejection of all forms of violence and destruction. Aikido is designed to train the body in such a way that people can learn how to get rid of violent intentions, it transforms the mindset in favor of one´s self-control in preparation for the collaboration and support of others.

So this  is not the same as this 

Aikido has the potential to help educators prepare their students in the four educational competencies that according to Delors (1996) have been recently established by the UNO so that they can: (a) live harmoniously with others, (b) do the best for themselves and others, (c) be the best human beings they can possibly be for their own good and that of others, as well as how they can (d) learn about themselves and others. Arts and sciences require particular talents in order to succeed whereas Aikido only requires human energy and will. Proposing to use Aikido as an educational method is paradigmatic based on the currently accepted idea that knowledge is not something acquired exclusively through the brains but also through the body. According to Hannafford (2008) physical action is crucial from the moment we are born since it creates the multiple brain connections that empower our cognitive potential as well throughout all of our lives.

Aikido is a space where people can be aware of their own being and human potential and a time devoted to find, recognize, multiply and apply an improved human energy called Ki which is to be used in all aspects of life and not just in the training hall. Aikido is transcendental, because its movements are designed to help people transcend themselves led by their human heart, a heart which makes us different from other species, given our capacity to learn, transmit, propose, express, change and transform this world (Escobar, 2014). Talking about human energy in Aikido is talking about what is necessary for our human potential to improve as when compared to the energy needed for a car to operate, a house to be illuminated, a will to reach a goal and an effort to achieve. This is the kind of heart that can be educated through the body in order to give a new dimension to the old saying “Know thyself” by switching it to “Conquer thyself” in order to transform and improve the civilized world.

DEFINING WHAT IS BEST FOR HUMAN BEINGS

They say all a Man wants is happiness so finding a way to live in peace and harmony should be a must. But in order to engage in such a project people need a special kind of energy, an energy that supports and strengthens human nature and Aikido is designed to teach people about this energy. What is best for humans is undoubtedly to try their best to find a formula or a method to develop humanly and to learn how to put an end to violence and selfishness for the sake of their survival.

Contrary to science, religions, and art, which have promoted the use of reason, love, compassion and sensitivity, as ways to improve the human heart, Aikido instructors believe problems can be solved when human beings act in correspondence. They claim problems can be resolved by developing a capacity to live in union, confluence and harmony, something that can only be done through a conscious and continuous effort. It might be said that it is a sort of neuro-physical programming activity: it deals with the creation of new conscious habits in order to eradicate violence and negative behavior, it works on behavioral patterns through experience so it can be considered a new kind of "programming". This kind of programming is intended as a new methodology for *Personal development* since it includes activities that improve awareness

and identity, develop talents and potential, build human capital, enhance quality of life and contribute to the realization of dreams and aspirations given the Ki energy that helps achieve all this. People´s goal is to live happily but human society is shaped by negative forces that work powerfully against this basic desire, such as greed, violence, environmental destruction, and attitudes that create big inequalities between people. Aikido can help by teaching them how to get rid of the primitive impulses that only trigger selfishness in human beings.

Religions see consideration, compassion and kindness as countervailing forces to the destructive aspect of human nature and see them as a sense of solidarity with others and life in general. Instead Aikido teaches practical solidarity, compassion and consideration learnt by experience and interaction as the best possible counteraction to such destructive aspects by teaching that transformation of one´s self may take us to a better life, supported by the right attitude and the right frame of mind. This is the kind of heart Aikido aims to cultivate between people and the search for correspondence between human hearts is the clue: the less correspondence between actions, attitudes and thoughts the more chances there are to kill the possibilities of being happy and civilized. Aikido works apart from ideologies, religions, political and scientific thoughts and concentrates on the work of the body in positive actions and in accordance to the higher order of the universe.

Working out the heart cannot be done through physical activities such as Tai chi, Yoga, Painting, Music or Ballet because they don´t have an impact on practical life. When they are practiced it is basically in an individual way and through the mind and body and not the human heart: (a) Tai chi is a slow motion activity done by each person individually and there is no helping partner to share this energy with, (b) Yoga is also a one–man work that promotes good health, relaxation and the work of postures, and (c) Painting, Music and Ballet help express human emotions but they don´t care about gravity, balance, stability and strength borrowed from contact with the Earth and the interchange of energy with a partner. And most previous Martial arts are done for the sake of competition, combat and fighting, they are self-centered and they don´t teach care about others and their human condition, they were not designed to interact and communicate, as Aikido was.

So Aikido is an outstanding formula designed to educate the human heart (*kokoro*) since it cares for values derived from the ancient samurai ethical code named *bushido*, such as:

a) Integrity, nobleness, magnanimity (JIN) – A human being is capable of improving, of becoming noble and of understanding good in everything. Aikido practitioners work to overcome the state of separateness and division of contemporary life. It rejects violence and competition because they lead to lack of harmony and make people lose their dignity as human beings.
b) Fraternity, loyalty and honorability (GI) – Practitioners work for the sake of collaboration and partnership, mutual help, service and attention to themselves and others rather than fighting and opposing. They work to grow personally and for the sake of the group.
c) Courtesy and respect (REI) – Aikido stresses deference and consideration people must have towards themselves and others. Right actions are the result of a right thinking and they show the noble essence of humanity. Aikido´s discipline is rigorous in order to forge the nobleness of human substance. Courtesy and respect lead to the spiritual and sacred dimension of people´s lives.
d) Intelligence and wisdom (CHI) – It is very important to know how to benefit and use knowledge, and how to make it serve others, so as to support and recognize their human dignity. Aikido acknowledges that the intellectual capacity of men is the result of the work of the left and right sides of the human brain but it also believes that such an intellectual potential can be increased when both cognitive and spiritual competences are integrated: perception and learning can be done not only in the head but also in the heart and low abdomen (*kokoro* and *seika tanden*) so that intelligence is enriched by intuition.
e) Faith and confidence (SHIN) – Aikido practice is designed to help people know themselves comprehensively; it is designed to overcome fears and limitations in order to reach our higher potential and to acquire a complete trust in what we are so that both classmates and the environment can perceive and benefit from the nobleness that can be reached from them. Aikido believes in the union, confluence and harmony formula created and developed by its founder master Morihei Ueshiba.

These values make practitioners develop one single heart (*kokoro*), one shared mentality, one same will and one simple formula for growth, one mutual way free from previous ideologies and goals that only divide; they do so without hurting their personal interests or disrupting their personal qualities. All the above-mentioned values are meant to lead, further and respect the freedom everyone has to achieve success in all aspects of their personal life. A heart of such magnitude can help people to keep up all the strengths, virtues and ethical aspirations they need in the 21st century. Such a single great heart can be both the motor and the purpose of everybody´s actions. One single heart can be the beginning and the end of the great cycle of life. In Aikido the heart is the personal strength, commitment, and full conviction to do what is right, correct and positive by rejecting all negative or violent actions and behavior. Positive Psychology proposed in the West by Seligman (2009) is a new attempt to help people use their signature strengths every day to produce authentic happiness and abundant gratification, to develop strengths and virtues, and Aikido can be the methodology it needs to achieve this, another way of practical intervention.

AIKIDO AND POSITIVE PSYCHOLOGY

Positive psychology is the branch of psychology that uses scientific understanding and effective intervention to aid in the achievement of a satisfactory life, rather than merely treating mental illness. Since it began, Positive psychologists agree that one must live a happy, engaged, and meaningful life in order to experience "the good life". The topics of interest to researchers in the field are: states of pleasure or flow, values, strengths, virtues, talents, as well as the ways that these can be promoted by social systems and institutions. It looks for a state of ¨flow¨ which leads to a sense of satisfaction and achievement: Aikido only differs in the fact that it is the individual him/herself who has to work on such topics and make a concrete effort to achieve them.

Aikido and Positive psychologists –as can be understood to Seligman and Csikszentmihalyi (2000)-, are concerned with positive experiences and positive relationships as can be seen in the following definition: ¨Positive psychology is the scientific study of positive human functioning and flourishing on multiple levels that include the biological, personal, relational, institutional, cultural, and global dimensions of life." Aikido studies human functioning, works with it and demands its full consciousness in order to flourish on those same dimensions starting with the individual in order to have a positive impact on the institutional, social and global dimensions. Aikido focuses on the same levels Positive psychology studies and has them as a formula to achieve a successful life. Aikido looks at success as a result of the physical application of its special energy force called KI. It complements the idea and the path to happiness embodied trough out the centuries such as happiness obtained from: (a) self-knowledge (Socrates), (b) rational activity in accordance with virtue over a complete life (Aristotle), (c) regarding philosophy as something utilitarian, and from (d) valuing the individual emotional expression (as Romantics did). And by helping people develop a strong character and solid positive attitudes, Aikido helps them have the spirit to face the challenges they find throughout their lives by keeping them in a constant state of flow and positive action. It teaches them to adapt to various circumstances and to rely on their own energy, which has no age, no political ties and no religious bounds. Aikido helps them give meaning to their lives and a deep sense of accomplishment, flourishing of the self and improvement of their human relations. Aikido is beneficial to families, schools and companies and differs from Positive psychology in that it doesn't encourage individuals to strive to their best but makes them do it instead.

Psychology has helped people change negative styles of thinking and feeling and its approach has been very successful in changing how we think about people, our future, and ourselves. Aikido people change by means of its peculiar physical training so it can be assured that it promotes a realistic way of fostering well-being in individuals and communities. It doesn´t have a set of rules or commands but a set of movements designed to make people become used to ¨no violence¨ and to grow as human beings. Its approach is a result of the humanistic and philosophical sources of the East but it cannot be found in just any regular Aikido school since there are also four different forms of practice neglected by regular, common instructors, namely: (a) IPPAN GEIKO (general practice), (b) TANDEN GEIKO (practice centered in the lower belly / abdomen), (c) TOKUBETSU GEIKO (practice according to the philosophy of self-improvement), and (d) KI NO NAGARE GEIKO (practice with the special energy that characterizes Aikido). The first kind is found in most schools whereas the other three are taught in just a few selected schools.

A RECENT STUDY ON AIKIDO AND HUMAN ENERGY

In a recent doctoral study, still unpublished, I have discovered that not all schools teach the original Aikido developed by its founder. It was carried out between 2013 and 2014 and it covered 6 different cases (schools): two in Texas, one in California, two more in Mexico City and one in Aguascalientes city (Mexico). Only one school was found to have an instructor who was not only a former student of the founder of Aikido but also an instructor interested in creating a Manual of topics related to the activities practiced in training sessions. This instructor is Yutaka Kurita, a former live-in student of Morihei Ueshiba who currently lives in Mexico City and works in what is now a new comprehensive approach of the Aikido originally developed by its founder. It was concluded that not all of them understand and educate practitioners in human energy and *kokoro* (the human heart) because their main goal is to practice techniques and they don't work on the physical self-conscious use of gravitational forces or the development of the human heart. Being aware of one's body, of the positive effect of non-martial moves, and to use our human heart to discover the essence of human beings takes time, effort and a good and interested instructor.

The results from the research carried out clearly indicate that Aikido activities and experiences as well as its environment contribute to the creation of a new *habitus* (the lifestyle, values, dispositions and expectations of the particular group formed by practitioners) based not on social position but on the particular lifestyle this activity generates. This according to the term as was coined by the sociologist Bourdieu (1960) which is known in correct Aikido as *Wa no kokoro* (¨circular/reciprocal heart¨), according to Kurita Y. (2015, Mexico). Unfortunately five out of the six cases analyzed limit their teaching programs to technical aspects and they miss the development aimed and proposed by the Founder of Aikido. It was clear that the physical education received in elementary and high schools must not be stopped since the activity benefits adults as well as adolescents and children. This is due to a lack of well-prepared instructors who should be interested more in the educational potential of Aikido rather than its technical/mechanical or martial-like aspects.
The study proved that only a renewed professional and comprehensive instruction in Aikido can have a positive and beneficial impact on the affective, social and corporal dimensions of practitioners. Since practicing Aikido can help people have a higher quality of life it is necessary to further its practice and teach lower instructors about this potential. Aikido has the potential to improve the quality of life by means of a development of the human capacity to be sensitive, intuitive, attentive and considered and civilized. This means –as the study revealed– that only 6 out of 38 practitioners miss the growth Aikido is supposed to give them. This is quite significant because Aikido is currently practiced all over the world but mainly as a new martial (fighting) art as can be seen in the hundreds of the YouTube videos and books published up to date in many countries.

It seems hard to find a good educational Aikido school since many only see and work on the surface. However, and due to the very nature of the art, they all are driven at least by the same constructive idea of avoiding violence and working in favor of the union, confluence and harmony with others. If individuals change themselves they can transform their societies. If they don´t develop a human heart, they cannot expect others to trust and communicate with them. If they don't overcome their own weaknesses, they cannot help others to become competent as human beings. The vital energy we are born with is all the energy needed in Aikido as an education project but it has to be raised to the KI level, the *energy* necessary to fuel up the works of the human heart. This KI is life energy at its most in reference to good judgment, human reason; determined will, strong spirit and positive, fully committed heart develop throughout AIKI practice. Changing the current education paradigm implies revising the old Cartesian saying "I think, then I am" in order to be aware that "If I think in a certain manner, then I surely am the result of that way of thinking". And if I act in a certain manner I will certainly change my way of thinking. Aikido training is intended to develop one´s own energy, to help people to get rid of negative aspects that spoil their human heart. As a new paradigm Aikido teaches how to make a friend out of an enemy, how to get the best from the personal effort made to cultivate healthy attitudes and a healthy frame of mind.

Throughout its physical activity Aikido creates the special energy already mentioned. This new KI energy can be used for an integral education given the multiple values we assign to our body. According to Delgado and Zurita (2002) the body can be seen differently as a dynamic, esthetic, ethic, social, and instrumental body. Thus Aikido takes advantage of this and uses the body to transform people though the development and multiplication of human constructive energy. A new, AIKI culture, a new kind of humanity, requires the

exploration of activities that can contribute to education and help improve the person´s capacities and skills for life and not just for work or profit or more scientific development.

CONCLUSION

Aikido is about training the heart throughout the body in order to refine people by means of an extremely specialized physical exercise. It helps to develop human energy of higher quality and potential and represents a step forward in physical education as it inherits a training system considered educational in the East: Aikido is a new and different means of human knowledge transference. The old idea that the ¨the mind controls the body¨ is challenged in Aikido when the person can see that the mind has nothing to do when the body is numbed, tired, swollen, or hurt in any form and when neuro sciences support the idea that the body contributes to the general conformation of the mind. From an Aikido point of view, it seems that the body needs to be rescued and utilized if a change of the heart is to take place.

It seems clear that due to a long held Illustration tradition we have forgotten to pay attention to human development. We have neglected to define what is best for all of us and to look for the right formula to improve and transform societies. We have basically focused on developing the best of ourselves by studying different sciences and gathering information and by developing intellectual skills. However our new century demands an effort to find new formulas that will help us get the best of ourselves as human beings. It is absolutely necessary to question ourselves to see if human education is or is not part of the general system centered on sciences and managing information, It is necessary to ponder if the individual is getting training to develop a human heart, apart from religions and philanthropy, and if the individual is trained to react more sensitively towards things, nature, society and all the world he is immersed in.

This can be done by using our human energy, something that should be obvious in a world full of different kinds of energy (solar, electrical, nuclear, and the like) but we still have to multiply and apply such human energy in our contemporary world. This goal could be a complement and an innovation in education since human energy has driven human development and has taken us to what we are now. We have created a civilization but now we must learn how to live peacefully and cooperatively so we can control our destiny in this and the following centuries. This article contends about the importance of educating people´s human heart by discovering and using a new kind of energy named KI. It explains how Aikido, a contemporary non-fighting martial art, is a formula that can be used in education together with the regular subjects that are part of both formal and informal programs. Aikido is a new educational paradigm intended to help individuals develop a new kind of humanity and from the results derived from doctoral thesis in education that evaluate Aikido´s potential it can be concluded that it can help us achieve the best there is in us as human beings.

With a human heart, service, respect and care for others begins with oneself and is done by overcoming our own weaknesses in a process that brings out the best in all of us in a conscious and attentive attitude applied to human life. Full conscience and commitment must be the essence of the heart we need to transform education in the 21st. century.

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Education Of Safety Behavior On Level Crossings From Society-Wide Perspective

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ABSTRACT
This article deals with necessity of education safety behavior on level crossings. It contains partial results of research which is focused on impact of risks, non-compliance with safety rules and critical places on users of transport services. Quantity of the accidents and incidents at level crossings is alarming. Through better ways of education it is possible to decrease amount of them. Contribution appeals to the necessity of implementation of educational measures that lead to increased safety due to their elimination.

Keywords: Safety behavior, level crossings, society

INTRODUCTION
Safety of level crossings is constantly actual issue. University of Žilina realized an extensive research of level crossings. For purpose of the research was defined danger zone of level crossing according to regulation ŽSR (Railways of Slovak Republic) Z 12 (Hrašková 2013). Danger zone is a space of the ground communication which is bounded by vertical surfaces which are parallel with outsides tracks at a distance of 2.50 m at outsides from axes on the tracks gauge 760, 1 000, 1 430 mm and at a distance of 3.10 m at the outsides from the axes at the track gauge 1 520 mm.

Majority of modern security equipment at the level crossing are automatically controlled by train movement. This means that if the train enters to the track circuit, starts activity of the security equipment. Usually, it is in distance of several hundred meters in front of level crossing but it depends from type of railway line and also from allowed track speed in a given section of railway line (Majerčák, 2010). If the speed of train is higher the distance is greater. Acoustic (60 - 80 decibels) and luminous (red flashing light) warning signalization is set so that the slowest and largest car could safely pass through the crossing level (truck with trailer with length 22 m. and the pass through level crossing 5 km/ per hour). Only after this time starts activation of an additional warning - crossing gates (Nedeliaková 2013a). From perspective of time it can be up to half a minute and more. Activity of this security equipment will be finished automatically after that the last wagon of the train leaves the track circuit. It is usually again a several hundred meters after the level crossing. All the time is the security equipment in the activity. Significant is fact that during this time none of road users under the Law on Road Traffic must not enter on the level crossing.

CURRENT STATE
Within the research was identified a lot of breach of law, non-compliance with safety rules. Number of incidents with respect to breach security is alarming. When the level crossings were monitored within whole Slovak Republic there was recorded till 640 breaches of law during one day from the side of vehicle drivers (Nedeliaková 2013a). All tragic accidents which happened on the level crossings in the past were from guilty of road users. They did not stop in front of level crossing and they didn´t convinced about the safe passage through the level crossing, they went on red light, or even through closed gates. Following figure 1 documents the number of accidents in SR for period of 13 years, together with number of deaths and seriously injured.

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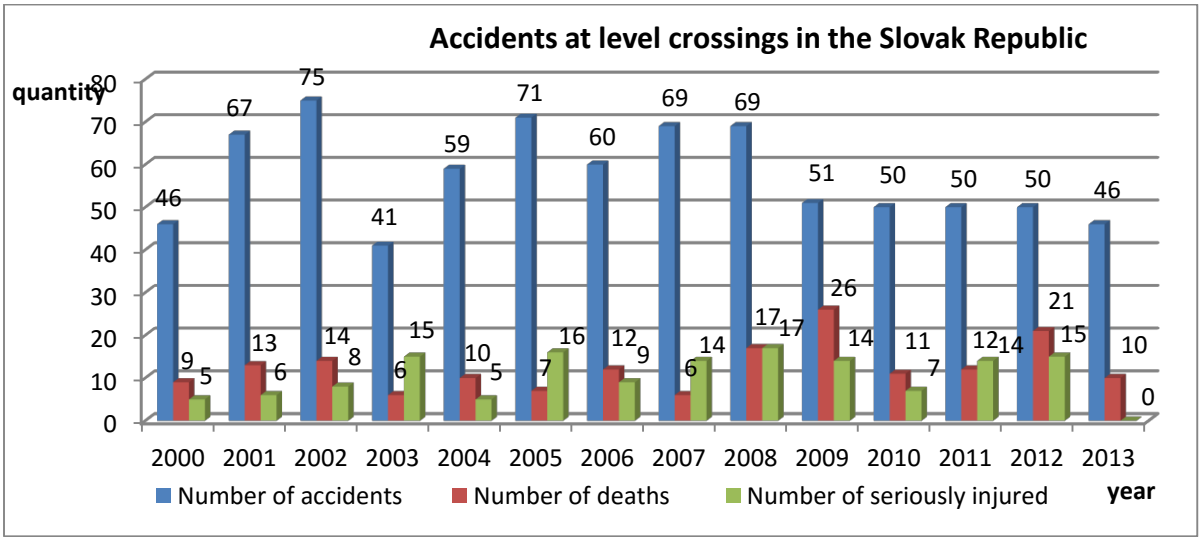

Figure 1: Accidents at level crossings in Slovakia

The assurance level of level crossing is in the responsibility of ŽSR, but also falls to the competence of state administration and traffic police (Nedeliaková 2012). ŽSR can´t arbitrarily change the level of security. Increasing the level of security is assessed according to the occurrence of accidents at level crossing and intensity of road transport.

Way of security of level crossing is assessed according to kind of railway line, class of traffic route, intensity of road and railway transport and the others (Sekulová 2014). In last years is effort to reduce the number of level crossing and construct the grade-separated crossing of traffic route with railway line. Last year was canceled 330 level crossings within the SR. Currently, also with to the reconstruction of the railway tracks and level crossings are built so-called "Signals" (signals for the control of the level crossing protection) which signaling to the train driver the state of level crossing. Signals are the equipment which helps with prevention of accidents at level crossings (Sekulová 2013). Its role is signalize to a train driver that the security equipment is in the correct activity. In the case of necessary (or disorder) the train driver can regulate movement of the train via level crossing.

RESEARCH ON THE SELECTED SEGMENT

From the investigation of collision between train and road vehicle was many times detected that the driver overtaken whole group of stationary vehicles and entered directly under to incoming train (even in the case of correct activity of level crossing security equipment). Braking distance of the train can be even 1 000 m, it depends on weight and speed of train. In spite of sanctions (usually fines) is the effect of these sanctions minimal.

The big problem is a vandalism when occurs to intentional damage of level crossing security equipment (broken optics of warning lights, broken spars, damaged and refuted stands, etc.).

The research was realized on whole Slovakia. For the extent of this issue, we present one specific example for selected segment. This railway line belongs to the first category of railway lines in Slovakia with a high traffic of trains and is a part of V. international corridor which main line leads from Venice to Lvov. The length of this selected segment is 84 km. In the objective segment were monitored seriously accidents, smaller accidents and incidents on which also the oncoming rail vehicle was involved, as defined in regulation Z 17.

For 10 year period was on line section recorded 140 accidents and from this 19 was at level crossings. During this period died 12 people and 4 were seriously injured on level crossings. Total damages for infrastructure manager ŽSR were in the amount of € 19 013.54, for the carriers € 454 082.44 and on the road vehicles € 17 331.94. On the examined segment is 23 level crossings, from this 8 have level crossing light security equipment (PZS) without the crossing gates, 14 is secured by PZS with the crossing gates and 1 is a mechanical level crossing security equipment (PZM). In the figure 2 is shown the number of accidents on

level crossings on given segment according to security type for 10 years period.

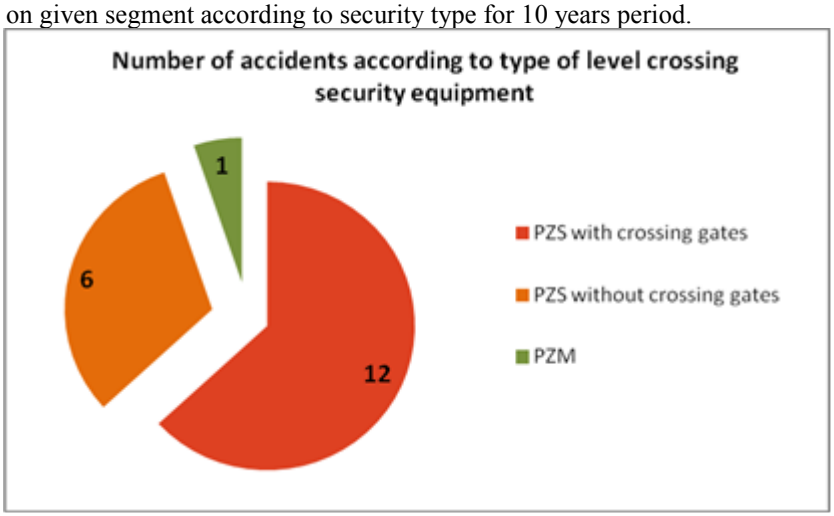

Figure 2: Number of accidents at the level crossing on line section according to grade of security

MEASURES TO INCREASE SECURITY

University of Žilina, Department of Railway transport, with railway operator's cooperation, organizes every year special kind of education on various primary and secondary schools focused on safety on railway crossings. Every year these events have approximately 500 participants from different parts of Slovakia. Children must understand how important the safety behavior is. The necessity of education safety behavior on level crossings is very significant part of teaching and it has huge impact on society. Modern methods of education are always used for comprehensible explaining. These methods represent a combination of presentations, practical use and explanation of undesirable behavior.

This teaching is connected also to another measure for increase users' security of transport operation through explanation of new additional luminous signalization Rail-flash. Nowadays driver of road motor vehicle must have at least 45 m observation tower before level crossing at a speed of 50 km/h. At higher speed, to which often occurring considering to busy lifestyle, is this distance increasing. By introducing of this equipment is information about oncoming rail vehicle to the level crossing transferred to the level of roadway in the distance 180 meters before level crossing. Traffic signs informing about level crossing with a higher number of accidents, the completion of level crossing gates and reconstruction of the subsoil seems to be also difficult from economical point of view.

During calculations the research came out from costs of accidents on given level crossing that have a stochastic character. If the value of human life could be quantified in monetary terms, it would be certainly reflected on the return of investment and reassessment of level crossings security.

CONCLUSIONS

According to research about the accidents at level crossings, the most common reason of rise of accidents at level crossings is non-compliance rules of road traffic due to lack of discipline its users. If occurs to the accident, also occurs to delay of trains, injuries of humans, loss of life, but also the property damage. Therefore, it is important to take into account also this factor in ensuring of level crossing. Frequent accidents limiting traffic and thereby occurs the increase of costs.

Realized research is benefit in identification of all risks and critical places which are relating to level crossings. In this research, we were able to capture the most common incidents and factors from which follows the necessity of individual solution of each level crossing. The research offers a new view to track the intensity through the transport moment. Unequivocal conclusions of research confirm constant actuality of this issue and necessity of people education in relation to the impact on the users of the transport operation and on the whole society.

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Effectıveness Of Islamıc Educatıon On Indıan Mualaf (Converts) In Selangor, Malaysıa

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ABSTRACT
Protection and support for converts is the responsibility of the authorities and the whole Muslim Ummah (Community). However this effort has to be ongoing due to the still unsettled issue related to the ability of mualaf to properly understand and practise Islamic teachings. Therefore, this study has been conducted to identify available measurement indicators of the status of knowledge, understanding and practice of Islamic teachings among Indian mualaf (converts) in the state of Selangor, and to analyse these measurements. A qualitative method is used by collection of data through published materials, survey and observation, interview and focus group discussions. A quantitative method is also implemented using the instrument of questionnaire distributed to 161 respondents from nine districts in Selangor. Data obtained is processed and analysed using PASW 18.0 (Predictive Analysis Software 18.0). Research finds that Islamic knowledge, understanding and practice of mualaf (converts) are at a satisfactory level. In this research, the mean value is divided into 3 categories: low (2.0 – 2.99), medium (3.0 – 3.99) and high (4.0 – 5.0). The highest mean value for Islamic knowledge and understanding of mualaf (converts) is 4.66 for the item "Salam (Peace) greetings may foster closer brotherhood bonds between Muslims" and the lowest mean mean is 2.25 for the item " I don't particularly mind eating and drinking in non-Muslims' houses" . Overall, findings on knowledge and understanding are good except the question relating to aqidah (creed) concerning kitab samawi (heavenly books) such as Zabur (Psalms), Taurat (Torah) and Injil (Bible) which obtained a mean value of 3.91. Measurement for level of Islamic practice after conversion shows the highest mean value is 4.84 for the item "I am grateful to God for embracing Islam" and the lowest mean value is 3.51 for the item "I frequently contact my parents". Overall, findings for Islamic practice among respondents are very good,

at mean value of 4.31. These findings are based on an analysis of answers to 15 questions submitted, out of which 12 scored a high mean value and percentage. The other 3 scored a medium mean value and percentage. NONE of them are at low mean value and percentage. In addition, findings for management of guidance class show a medium level.

INTRODUCTION

Knowledge of Islamic teachings is one of the pulling factors for non-Muslims to Islam. This knowledge is obtained through various means, among them through formal or informal classes, participation in activities of Muslim societies (NGOs), reading of academic and non-academic materials, and not least through looking at the lifestyle of Muslims themselves and reading and studying of al-Quran itself. This was what actually happened to a number of mualaf (converts) who were attracted to Islam and directly converted. They aspired to be 'a better person' (http://www.onislam.net/english/reading-islam/my-journey-to-islam.html; http://www.thenational.ae/uae/heritage/more-than-500-convert-to-islam-in-dubai-since-start-of2015; http://www.moroccoworldnews.com/2015/01/149537/french-director-converts-to-islam-after-charlie-hebdo-attacks; http://amaerica.aljazera.com/opinions/2015/3/why-i-convert-to islam.html)

Likewise, Islamic knowledge and education are very important for Muslim converts. Thus, protection and support for them becomes the responsibility of the authorities and the whole Muslim Ummah. However, management of new converts is perceived as problematic and ineffective. This state of affairs may be seen in various issues arising relating to converts, which have become controversial at the national level.
An example the issue of application to apostasize among converts is a big issue which should receive due attention from the authorities and the Muslim Ummah in Malaysia. Applications to apostasize among new converts are caused by various factors such as continuous pressure and threats from family and relatives, inheritance entitlements, disappointment from marriage breakdown and so on. What is clear in this problem is that new converts need protection and support from earlier converts, and in fact, from the authorities and the Muslim Ummah to ensure that their aqidah are safeguarded and they do not fall into apostasy. Hence, the urgent problem of apostasy among converts need to be given serious attention so that this problem may be resolved in the best possible manner (Anuar Puteh 2008).

In the state of Selangor, affairs of converts are managed by the Islamic Religious Council of Selangor, namely Majlis Agama Islam Selangor (MAIS). A section of MAIS, namely Section of Management and Development of Convert is responsible for the registration procedure as well as the welfare and education of converts. Nevertheless, Islamic Religious Council of Selangor does not as yet keep a perfect and good profiling on converts in order to deal with such problems. Thus, it would be difficult to accurately identify the real cause and solution to a convert's problem in Selangor. In fact, efforts to develop converts cannot take place due to the absence of systematic profiling and organized records on them (Amar Sidque 2010).

Management of mualaf (converts) not only relates to their welfare, but is very much concerned with mangaement of guidance given to them. It is for the purpose of enhancing their knowledge, understanding and practice. This is important to avoid issues which may arise such as apostasy or going back to the former religion, practising the same lifestyle before conversion to Islam, and not practising true Islamic teachings. The issue of apostasy occurs increasingly every year in the state of Selangor (Anon: 2012). This is proven by data: in the year 2007 there were 27 cases; in 2008, there were 42 cases; in the year 2009 there was a slight decline with 40 registered cases; and up to January 2010, there were 3 cases (Nurul Ain: 2010). In addition, a study by Anuar Puteh (2008) finds that many among Chinese converts cannot read al-Quran. Some even among them do not recognise the hijaiyah letters which form the system of writing and reading al-Quran. For this reason, conducting research concerning converts' status of knowledge, understanding and Islamic practice is important. Its also happen to the Indian convert. Therefore, this study has been conducted to identify available measurement indicators of the status of knowledge, understanding and practice of Islamic teachings among Indian mualaf (converts) in the state of Selangor, and to analyse these measurements.

RESEARCH METHODOLOGY

This research is both qualitative and quantitative. The qualitative approach is very suitable for obtaining in-depth theoretical information concerning an object. The quantitative approach uses questionnaire as instrument which is distributed to 161 respondents from nine districts in Selangor. This approach is suitable

for obtaining empirical data concerning a phenomena which occurs in society. The resulting information from the empirical data enables the researcher to resolve the research issue. In addition, the technique of in-depth interview is used to obtain research information which requires detailed explanation by the respondents.

Interview is one of the methods to be used. It is conducted on individuals and focus groups.The researchers has conducted five target groups which involve parties who are stakeholders and experts in the subject of converts:

i. Mualaf Development Round Table Conference
ii. Expert Validation of Mualaf Questionnaire Instrument Workshop
iii. Petaling Jaya District Mualaf Dakwah Panel Round Table Conference
iv. Hulu Langat District Mualaf Dakwah Panel Round Table Conference
v. Selangor Mualaf Development Executive Round Table Conference

Questionnaire is the research instrument used and distributed to each respondent for the purpose of obtaining actual data related to respondents. The questionnaire has four parts; part A on self profile, part B related to background of parents, part C related to measurement of knowledge, and part D related to measurement of practice. Sample selection is based on random sampling. Research sample is comprised of 161 persons from among Indian converts in the state of Selangor.

RESULT AND DISCUSSION

Islamic Shariah encompasses the components of aqidah (belief), ibadah (forms of worship) and akhlaq (moral character). Questions are contructed based on one component, except for one question which covers two or more components. The answers to questions are in the form of Likert scale: Strongly Agree (SA,) Agree (A), Not Sure (NS), Disagree (DA) and Strongly Disagree (SDA) equivalent to 5, 4, 3, 2 and 1 respectively. Findings on knowledge and understanding are divided into 3 levels of mean value: i. Mean value 4.0 – 5.0 (high), ii.Mean value 3.0 – 3.99 (medium), iii.Mean value 2.0 – 2.99 (low).

Measurement Of Knowledge And Understanding Islam. Knowledge in this research is refer to the three aspects of creed (aqidah), worship (ibadah) and character or attitude (akhlaq). Table 1 show the result of this three aspects:

Table 1: Measurement of Knowledge and Undersatanding Islam:

NO	ITEM	SDA %	DA %	NS %	A %	SA %	Mean %
C01	Every believer is certain to go to heaven.	0.6	0	5.0	29.8	64.6	4.58
C02	Only the Holy Book al-Quran was sent down by Allah.	8.7	11.8	9.3	19.9	50.3	3.91
C03	Allah appoints certain angels to record man's good and bad deeds.	1.2	3.1	1.2	37.3	57.1	4.46
C04	Believers are certain to easily obtain abundant wealth.	6.8	10.6	33.5	28.0	21.1	3.46
C05	Believers are not likely to be tested by God	23.0	24.**2**	25.	13.7	13.7	2.71
C06	I do not particularly mind eating and drinking in non-Muslim houses.	36.6	23.0	21.7	15.5	3.1	2.25
C07	I always check the *halal* (permissible) logo when buying food.	1.9	0.6	8.1	29.8	59.6	4.45
C08	Prayers (*Solat*) may be performed anywhere provided the place is free of impurities.	1.2	1.9	6.2	26.1	64.6	4.51
C09	Ill health is a legal excuse to not fast (in Ramadan).	3.7	11.2	13.7	47.8	23.6	3.76
C10	*Zakat fitrah* (Obligatory charity tax) is only obligatory on the rich.	31.7	27.3	18.6	12.4	9.9	2.42
C11	Patience will reduce stress.	1.9	3.1	11.2	42.2	41.6	4.19
C12	*Salam* greetings may strengthen the bonds of Muslim brotherhood.	0%	0%	3.1	28.0	68.9	4.66
C13	Sincerity is a prerequisite in worship.	-	0%	7.5	36.6	55.9	4.48
C14	Sincere acceptance or pleasure with destiny *(Redha*) will dispel sadness in facing trials in life.	1.2	4.3	13.7	44.1	36.6	4.11
C15	Only believers feel gratitude.	2.5	9.9	21.1	26.7	39.8	3.91

Measurement Of Practice Islamic Teaching. Islamic practice after embracing Islam is an indicator of respondent's practice status. Practice refers also to the three aspects of creed (aqidah), worship (ibadah) and character or attitude (akhlaq). Findings on this practice are also based on the 3 levels of mean value. Table 2 show the result of the Islamic practice of converts:

Table 2: Measurement of Practice Islamic Teaching.

No	ITEM	SDA %	DA %	NS%	A %	SA %	Mean
A01	My relationship with my parents is still good.	4.3	5.6	19.3	28.6	42.2	3.99
A02	I frequently contact my parent.	10.6	15.5	18.0	24.2	31.7	3.51
A03	I always help people in difficulty.	0.6	5.6	3.7	44.1	46.0	4.29
A04	I pray 5 times a day.	-	1.2	9.3	26.1	63.4	4.52
A05	I choose halal food.	1.2	1.9	2.5	29.	65.	4.55
A06	I strive to improve reading of al Quran.	0.6	1.9	5.6	37.3	54.7	4.43
A07	I fast in the month of Ramadan.	0.6	--	7.5	37.3	54.7	4.45
A08	I wear aaccording to Islamic reqquirements.	0%	.6%	5.6	38.5	55.3	4.48
A09	I do not ask help from ancestors' souls in times of difficulty.	21.1	5.0	7.5	21.1	45.3	3.65
A10	I do not take anything that does not belong to me.	9.9	2.5	3.7	29.2	54.7	4.16
A11	I do not drink alcohol even if others do not see me.	12.4	2.5	4.3	21.1	59.6	4.13
A12	I always do good because it is Allah's command to do so.	0.6	0	1.9	28.0	69.6	4.66
A13	I always distance myself from bad or evil because it is prohibited by Allah.	1.2	0.6	3.1	34.8	60.2	4.52
A14	I accept whatever is decreed by Allah.	1.2%	-	4.3	32.3	62.1	4.54
A15	I am grateful for conversion to Islam.	-	-	0.6	14.3	85.1	4.84

Research finds that Islamic knowledge, understanding and practice of mualaf are at a satisfactory level. However, MAIS needs to further empower the mualaf class so as to enhance their knowledge, understanding and practice to a higher level, particularly in matters concerning aqidah. This is based on findings in Table 1 which show an overall high level of knowledge and understanding. Item C12 "Salam (peace) greetings may strengthen the bond of Muslim brotherhood" which obtained the highest mean value of 4.66 shows the Indian mualaf's understanding of the importance of strengthening relations between Muslims. Question C06 " I do not mind eating and drinking in a non-Muslim house" which in spite of having obtained the lowest mean value of 2.25, nevertheless shows a positive side that after conversion, mualaf do not cut off relations with their non-Muslim families or society and still partake food and drink in their houses. As for the question related to aqidah, the findings show that the majority of respondents did not know that Allah had sent the heavenly books (kitab samawi) of Torah (Taurat), Psalms (Zabur) and Bible (Injil) other than al-Quran. In Table 2, all the questions are in the range of medium and good with a mean value of 3.0 and above. The highest mean value is for the question A15 " I am grateful for conversion to Islam". Finding shows that the Indian converts are not only pleased with their decision to convert, they also do not have reservations about their decision. The lowest item in Table 2 is for the question A02 " I frequently contact my parents." which obtained a mean value of 3.51. Even though it obtained the lowest mean value, the finding is still positive because the question is similar to question A01 "My relationship with my parents is still good" which scored a higher mean value of 3.99. Overall, the findings show that practice of Islamic teachings among respondents is very good. Based on an analysis of 15 questions submitted, 12 questions are at highest mean value and percentage while the other 3 questions are at medium mean value and percentage. NONE of the findings are at low mean value and percentage. This shows that the indicator level of Islamic practice among 161 Indian mualaf (respondents) after conversion is very good.

CONCLUSION

Research findings, based on the situation at the time it was conducted, show that on the whole, Islamic education of Indian mualaf (converts) in Selangor is good and satisfactory. It covers knowledge, understanding and practice. This helps them to apply Islamic teachings in their everday life after embracing Islam. However, aspects of infrastructure and welfare require improvement in order to ensure their education and life are protected and appreciated.

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Effects Of Knowledge On Employment[1]

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ABSTRACT
The purpose of the study is to center on to what extent the apparatuses of knowledge age has left an impact on the employment which can be defined as "the usage of labour as a sort of input in the process of production". The Industrial Revolution was the sign of transformation from the manual oriented economy to the machine oriented ones also shifted the requirements of the human resource capital. After the Industrial Revolution, knowledge economics began to improve especially in the West World along with technological developments. In this context, the new terms about the work entered to the literature such as the time, wage, trade unions, working conditions, factories and so forth. This event called as industrialization as different from the period of agriculture isolated the work and family life from one another. During this process, the economic, sociological, and the political procedures resulted in the development as well as the importance of the knowledge and the knowledge economy. Today, the knowledge which is the particular indicator of knowing something and know-how is associated with the welfare and the power. With this framework, the main aim of the study is to analyze the changing perspectives of the knowledge economics on employment and the employees by referencing to the information centered society.

Key Words: Knowledge Economy, Knowledge Management, Talent Management, Knowledge, Knowledge Worker

INTRODUCTION

It is known that there has been an ongoing change all over the course of the history in every fields of the society, that is to say, politically, economically, scientifically and so forth. From this perspective, it can be argued that the change is the main dynamism of the world. Each member of the world is to renew themselves based upon this changed criteria perpetually. Concerning the developmental process of humankind, that is also the case. For example, the industrial revolution which is the root of the economic growth in the Western countries on technology and which results from the usage of useful knowledge and the interaction of the knowledge itself can be interpreted as the turning point in the life cycle of the humans. The reason is that the industrial revolution which was a kind of transition from hand made products to the industrial manufacture provided the productivity growth and the relative quality in the life (Mokry, 2003: 27, 28).

Over the last 200 years, almost every country accelerated its productivity via industrial standards. As an example, the countries that take advantage of scale economies through industrialized idea converted the sort of production of the manufactures were the ones that became rich; in the eighteenth century Britain as well as Korea and Japan in the twentieth century (Murphy, Shleifer & Vishny, 1989: 1003). No one denies the fact that industrialization has brought growth, but it is actually a big question mark concerning whether it has centered the 'quality" on the axis of life itself or not due to the fact that the developments occurred in the aftermath of this process were also regarded that the boom of industrialization unfortunately caused "poverty" particularly in terms of employees. In more explicit terms, it can be stated that industry, in other words industrialization has made capital the 'capital' of everything, but on the other hand labour has been doomed to "slavery" while the countries that did not succeed industrialization became poor as well (Murphy, Shleifer & Vishny, 1989: 1003; Yüksel, 2014a: 125-130).

[1] *This study is the extended and the revised form of paper named "The Knowledge as the Main Determinant on the Employment and the Employees' Profile" and introduced by us, in the symposium organized by Burch University in Bosnia Herzegova in 2013.*

Along with the development of industry, new terms such as factory, wage, trade unions, social policy implementations entered to the life and the life of one's own was isolated from the working place. The working hours occurred and the freedom of employees was submitted to the initiative of the employers in spite of the fact that the means of production did not belong to the employees which bring about the alienation to the work, to the employers and to the product that they manufactured. The gap between employees and the employers resulted in the clash, so to say, the clash of power on the manufacturing system. At the same time, the capitalism which can be taken into account as the social system in which "the means for producing and distributing goods (the land, factories, technology, transport system etc) are owned by a small minority of people." To put in another way, the capitalists are those who possess the capital. And the majority of the people who work for them are called the workers who sell their ability to work in return for a salary or wage. That's why, the ultimate effect of industrial revolution is the occurrence of the class of employees and the employers. But, the profile of the employees are too low, they are not so talented and they just serve for the capitalist idea which is profit driven. And the jobs are quite regular as well as monotonous, so there is no need for employees to utilize their mental capability, and the wages are too low for them to support their own lives (http://www.worldsocialism.org/spgb/what-capitalism Retrieved 15.04.2013).

The standard type of employees and the routine oriented occupations changed radically by means of knowledge age which lays a great emphasis on the production and the usage of the knowledge. In this age, the knowledge is synonymous with the power. Those who produce knowledge and those who use it have the power all over the world. In this term, the employment and the worker profile radically changed on account of the fact that the requirements of the employment and the worker altered too. Therefore, in this study, the ultimate objective is to focus on the significance of the knowledge economy on employment itself.

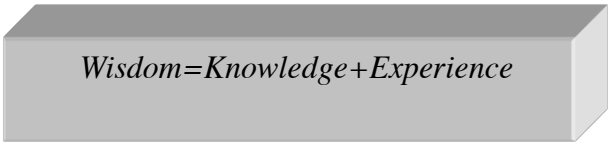
1.Theoretical Framework

1.1.Knowledge

Nonaka (1994: 14-38) notes that individuals and not organizations produce knowledge. That's why, "organizational knowledge production should be understood in terms of a process that 'organizationally' amplifies the knowledge created by individuals" (p. 17). He goes on to posit that "in the business organization, the field for (individual) interaction is often provided in the form of an autonomous, self-organizing 'team' made up of several members coming from a variety of functional areas" (p. 23). He further argues that "teams play a central role in the process of organizational knowledge creation" (p. 32). What this points to is the critical role that individual employees play in the process, especially when utilized in teams whose purpose is to expand the organization's knowledge base. Unfortunately, most of the books and articles on KM ignore the fact that the employees are the ones that make or break such initiatives. It is easier to focus at the system level when considering how to manage organizational knowledge, but success is determined "in the trenches." If the individuals directly involved in the enactment of knowledge creation and dissemination do not find such activities to be useful or do not see them as having positive effects, then these efforts tend to fail.

Knowledge that is regarded as the asset of the upcoming future is "understanding of or information about a subject that you get by experience or study, either known by one person or by people generally" or "the state of knowing about or being familiar with something" (Cambridge University Dictionary, http://dictionary.cambridge.org/dictionary/british/knowledge?q=knowledge Retrieved 15.04.2013). What about information, wisdom, data and the other terms? What are the differences of these terms with knowledge? Are they the same or similar? The equation among these terms can be revealed in the following formula (Botha, 2007: 10):

Figure 1: The Equation of Knowledge



Source: Botha, 2007, p. 10.

As seen in figure one, knowledge, along with the experience, equates the wisdom. In regards to hierarchy, wisdom ranks higher than knowledge which was followed by information and data. The knowledge can be put in order in this way:

- Data includes raw and fresh facts.
- Information is the facts given in a particular context.
- Knowledge is the information that targets action.
- Wisdom is to determine which knowledge can be used in which context and for what purpose. So, wisdom is the highest level of ranking.

So as to make these terms more concrete, a new example can be given. For instance, if someone says "30", this does not mean anything. It could be height, kilometer, kilogramme or something like that. So here the number 30 is the raw material. But, if someone says 30 Centigrade, everyone will understand that it is about temperature. This is the information which is used in contexts. Additionally, if someone says that 30 is the age when a person is productive most, this is called as knowledge. So, in a way knowledge is type of information that is accepted generally by everyone. Wisdom as the upper degree of knowledge is common feeling which is also tested with the experiences as well (Botha, 2007: 10). In a way, knowledge is something like a term that is neither data nor information but it is actually related to both. Maybe, knowledge "*is plural, heterogeneous phenomenon that comprises multiple rationalities, whose logics are not defined by a transcendental norm but relate to the pragmatics of contexts*." (Awad & Ghaziri, 2008: 56). There are some very particular developments that play a key role in the development of the knowledge as in the following (Cortoda, 1999):

a) The economic globalization that necessitate the firms adapt themselves to the innovation and the scientific improvement.
b) The increasing awareness concerning the value of specialized knowledge.
c) The increasing awareness on the knowledge as a distinct factor for production.
d) Computer networking.

As seen in the items, the knowledge taken into account as the value in 21th century does not occur all of a sudden. However, there are some turning points that contribute to the emergence of the knowledge such as industrial revolution, globalization and computer networking. All these things pave the way that the knowledge is the ultimate result concerning these development oriented issues.

1.2.Employment

Employment which is crucial for the lives of humans and for the sustainability of economies and the governments is a tool of social policy and economy. It is not a unique term that focuses on the production or the process of production, yet it is closely related to the earnings of humans to support their own lives, families, children and so forth. Therefore, employment means "wage", "statute", "prestige", and "a drive for motivation to work" for employed, but more than that employment signifies the continuation of stability, work peace, and the permanence of government for each countries. Most probably, the countries where the big protests and demonstrations take place are those that possess the problem of unemployment.
Employment derives from the word "employ" which is "having someone work or doing a job for someone and paying them for it." As for employment, it is the case that occurs "when someone is paid to work for a company or organization" (Cambridge Advanced Learners Dictionary, 2005: 408). According to Oxford Dictionary, it has four meanings: work, especially when it is done to earn money; the state of being employed (i); the situation in which people have work (ii); the act of employing somebody (iii); the use of something (iv) (Oxford Advanced Learners' Dictionary of Current English, 2010: 498). As in the following table, other than the word meaning, the definition of employment varies:

Table 1. Different Definitions of Employment in the Literature

Definition	Source
"refers to work under contractual arrangements involving material rewards."	(Jahoda, 1982: 8)
"is the source of income, it is also the basis of social standing and self esteem".	(Deacon, 2008: 311)
"the usage of labour in the production in a productive way, and in return for this value, the amount given to labour."	(Işığıçok, 2014: 30)
"Most treatises on the theory of value and production are primarily concerned with the distribution of a given volume of employed resources between different uses and with the conditions, which assuming the employment of this quantity of resources, determine their relative rewards and relative values of their products."	(Keynes, 2008: 4)
[…] is the practice that "were pioneered at the collective bargaining table, such as binding arbitration of contract disputes, cost of living allowance clauses, multiyear contracts, and supplemental unemployment benefits."	(Kaufmann, 1997: 3)
employment is synonymous with labour.	(Cihon & Castagnera, 2011: 1)

Source: (Jahoda, 1982: 8; Deacon, 2008: 311; Işığıçok, 2014: 30; Keynes, 2008: 4; Kaufmann, 1997: 3; Cihon & Castagnera, 2011: 1).

2.Age of Knowledge and Its Reflections on the Society

Rather than the theoretical basis of the knowledge, it is a kind of name that is associated with a particular period. Especially after the neoliberal policies in the world following the crisis of 1970, the world started to debate about the knowledge and its importance. The industry and all aspects of live started to be associated with the knowledge. The paradigms of the industrial revolution changed. Instead of physical inputs, the intellectual capabilities of the humans come to the fore (Powell & Snellman, 2004: 199; Kevük, 2006: 320-322). The knowledge is regarded as a sort of "unique attribute" and it is dealt with by humans through mental processes, awareness as well as intuition and can solely be transferred through learning activity (Amidon, 1997: 5).

Here, this age is named after information age, knowledge age, information society and ext. The developmental process is a little bit relative. Without any hesitation, the unique feature of this society is that these societies are driven by the creativities. It is an advantage for the economy but some people like Schumpeter argue that this is a period of "creative destruction." Yeah, it causes continuous economic growth and richness for the general society and it includes the public good but its identity of "profit" disorders the social norms and social orders (Hargreaves, 2003: 1). The availability of the knowledge in the internet erodes some of the professions and also the subject centered knowledge (Williams, 2007: 512).

The remains of the knowledge society dates back even before the industrial revolution. To put in an explicit term, it can be argued that the knowledge society is not the first experience of the humankinds in the nineteenth century. As an example, the Renaissance which can be interpreted as the rebirth of the Europe is well known for the scientific improvements in the Middle Ages. There were technological and communicative progresses that left a great impact on the society with the mass printing technologies that superseded the hand written manuscripts. In the period of Renaissance, the books are started to be published and they became more accessible. As in Renaissance, the knowledge society that is the upper advance stage of the knowledge production and the usage, electronic communications, software service providers, the internet, the mobile phones symbolize the extended form of the information. In each situation, the possession

of the knowledge is viewed as the social and economic resource, in a way, commercial item. Both in the period of Renaissance and modern age, the knowledge has been practical if it is put into practice along with its theoretical side. All these things pave the way that there is not a single knowledge society but a few which changed the vision of the nations and broadened their perspectives (Adelstein, 2011: 9).

Table 2: The Comparison of the Knowledge Societies

Knowledge Society	Discursive Objects	Renaissance
Information technologies	The shift of communication	Script to printing
Computers	Technology	The development of the printing press
Electronic telecommunication systems	The spread of knowledge	Book publishers and the book sellers
Knowledge as a social and economic resource	Resource	Publishing as a social and political source
Knowledge as an accessible concept	Accessibility	Greater access to the written materials
Application of the knowledge as well as its practice	Not just theory but also practice	The theories are made a knowledge framework
New forms of organization that emphasizes knowledge frameworks	Advance	The progress in the translation
Electronic databases	The storage of the information	Printed books
Information society	Informing and to be informed	The transition to medieval to early modern
From elementary education to higher education	Educational shift	From oral to literature society
Global institutions, governments, and corporations	Institutional control	Church and the state
Knowledge society contributes to the development of the globalization.	Political effectiveness	The nation states and nationalism

Source: (Adelstein, 2011: 10; Arthur & Rousseau, 1996).

The age of knowledge brings communication technologies and the computer as the main directors of the labour and labour relations. Unlike from the agricultural and industrial revolution, the age of knowledge can be defined as the knowledge revolution as it causes radical changes in all the spheres of life. Especially those countries that adapt themselves to the knowledge based orientations get a competitive advantage over the other countries. Also, in this age, the knowledge means the power and the power means running and controlling the world (Law, 2000: 324).

The production and the use of the knowledge which adds plus value to the productivity and innovation (Peri, 2005: 308) are the indispensable parts of the knowledge age. All the paradigms of the society are shaped within the knowledge identity and learning such as lifelong learning that constitutes the core of the society and that paves the way for the development of the society as well. Here it can be discussed that it is impossible to isolate the knowledge age from the ongoing learning process. The learning is not teacher centered but in the stark contrast the learning is student centered. And also the learning as different from the classic idea is not just confined to the school and there are lots of sources to learn information. However, the function of the schools is to make the students teach how to learn (Hargreaves, 2003: 1, 3; Balay, 2004: 69).

In the age of knowledge, the production of the knowledge as well as using it has been paramount importance as the knowledge is taken into account as the power itself. The internet, the telecommunication systems, the computer are the prominent devices utilized for the production of the knowledge which pave the way that humans come closer and the world is smaller. This also fosters the globalization itself.
The information age in which organizational effectiveness gained momentum with the various management styles such as Total Quality Management (TQM), Strategic Human Resources Management (SHRM), Talent Management (TM) supported the competitiveness and also operational learning for the businesses

(Mukherjee, Lapre & Wassenhove, 1998: 35). The old paradigms, the old management styles, and the traditional company concepts doom to change with this new trend as shown in the following table (Christensen, 2003: 10).

Table 3: The Difference Between Traditional Company and Knowledge Driven Company

Traditional Company	The Knowledge Driven Company
Procedures	Challenges
Centralized Management, Hierarchy	Self Management, Flexibility
External Allocation of Work	Ones of allocation of work
Resistance to the change	Ongoing change
Closed to the world	Open to the world
Supervision	Self supervision

Source: (Christensen, 2003: 10).

As seen in Table 3, with the knowledge oriented concept, the businesses commenced to alter their strategies, and they reshaped their ideas concerning the knowledge itself. The new age made the companies bend the rules and they put the flexibility into the center. The companies in this age are open to change and open to the world. So, they used these kinds of motives and methods to capture the attention of the knowledge workers and to adapt these new era as illustrated in Table 4 (Christensen, 2003: 17).

Table 4: The Motives and the Methods That the Knowledge Companies To Use

Motives	Methods
Adapting a management style that is quite modern for the knowledge workers.	Informing the public concerning the engagement of the company in the knowledge management.
Searching new knowledge.	Allowing the staff to produce new knowledge and making them to be productive.
Learning from the experience of the company.	Spending so much time on the projects that the company developed well in advance.
Improving the knowledge of the staff concerning the company.	Establishing a network that provides to the each staff what they are doing about the company.
Guaranteeing the independence of the staff	Documenting the knowledge of the employees which will decrease the vulnerability effect of the company when the staff leaves from the work.
Finding a way to retain the staff as they possess invaluable knowledge.	Offering better opportunities to the staff which will motivate them.
Encouraging the staff to improve knowledge sharing.	Developing the dialogue among the staff to share their knowledge on the staff.

Source: (Christensen, 2003: 17).

The companies in the age of knowledge are to use some motives and methods to increase the dynamism of them. For example, they should adapt flexible management, they should find a way to search for new knowledge, they should get lessons from their past experiences, they should give utmost importance to free mobility of the employees, they should learn to retain the staff and so forth. These new organizational ways of the knowledge companies are to be competitive and it is to strengthen the organizational culture of them which is the sinequanon of the information age. In this context, considering that the information age is effective in all parts of society, the reflections of the knowledge on the society as a whole not just on the businesses can be summarized in the following items.

- The improvement of the knowledge in the society can be regarded as a kind of revolution as it ends with radical transformations.
- In the age of knowledge, the society is started to be shaped concerning information production and its usage.
- The fundamental paradigms of the industrial society were left and the codes of the community were reshaped within the idea of innovation.
- The knowledge means economic, politic and cultural power all over the world.

- The classical management styles also changed as in personnel management. Instead of all these, new and modern ones were replaced like human resource management, strategic human resource management, talent management and so on.
- The hierarchical mechanisms of the working environment were left and flexibility was put into practice. At the same time, flexible working such as tele-work, part time work, homework entered to the working.
- The devices of the knowledge society such as internet and telecommunication accelerated the process of globalization.
- New concepts in the education like lifelong learning, distance learning occurred. So, the learning process went beyond the school environment and a particular age period owing to the fact that the information becomes old and obsolete in a short period of time, and it is to be updated. All these arguments pave the way that the learning turns into a paradigm which something like from "cradle to grave".
- The profiles of the employees changed as well. This means that the requirements of the workers are needed to be updated within the context of the knowledge age. Otherwise, the companies do not increase their competitive advantage as the human resource is their assets.
- The e-mail, google, facebook, messenger as the products of the social media are the other outputs of the information age. Through these equipments, the world come closer and the people get in touch with one another easily.
- The modern education techniques like computer assisted learning and also the technological devices like smart boards, overhead projectors, computer labs altered the vision of the education.

3.Knowledge Management

The internal infrastructure of the companies and the increasing complexity of the environment make them invest in innovation and the scarcity of the resources brings the knowledge to the fore as the success of the businesses. From this perspective, it can be mentioned that knowledge is taken into account as the crucial factor that surpasses the other production factors such as labor, capital, land, and so forth. Here, knowledge management occurred "as a label for consciously perceiving and addressing the issues raised by the importance and availability of knowledge." Knowledge management can be addressed as a sort of management that manages the knowledge as the source. It is also concerned with managing the knowledge related concepts such as knowledge workers on the basis of creating and maintaining plus value concerning knowledge. Knowledge management as its perspective is so wide, it includes business studies, sociology, psychology, educational science, computer science, cognitive science, and so forth (Rollett, 2003: 6).

Knowledge management in other words is a new, interdisciplinary concept that puts the knowledge on the center of the organizational processes. Knowledge as it provides the ultimate competitive advantage for the firms; it involves different factors like technology, people, organizational processes, and knowledge (Awad & Ghaziri, 2008: 26, 27).

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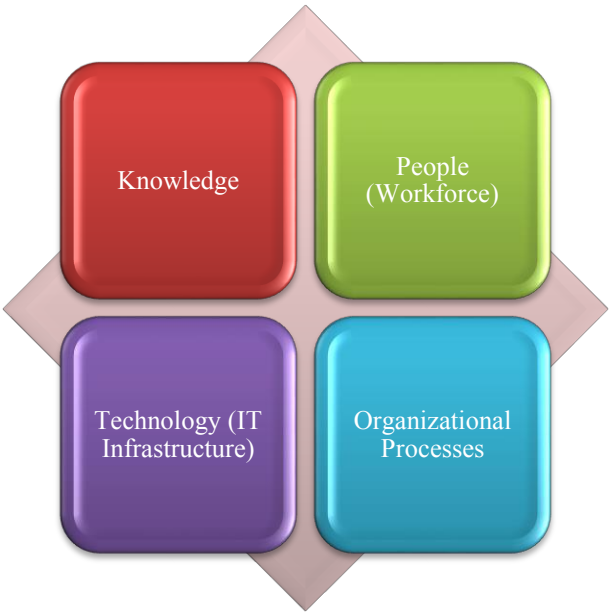
Figure 1. The Sinequanons of Knowledge Management



Source: (Awad & Ghaziri, 2008: 26, 27).

Figure 1 reveals that knowledge management is the main framework of the management in the organizations rooted in the production of the knowledge including knowledge, people as human resource, technology and organizational processes. According to the knowledge management, the organizations use accessible knowledge from outside resources, stores knowledge in business products, represents the knowledge in various databases as well as documents, promotes the knowledge improvement by means of organizational culture and the other incentives, transfers and shares the knowledge among the different parts of the organizations and assess the value of the knowledge (Awad & Ghaziri, 2008: 27).

3.1.Talent Management within the Context of Knowledge Management

Talent, the definition of which has been exposed to shift etymologically for thousands of years is used to refer to the "ability" of someone (Tansley, 2011: 266, 267). As for talent management, it is a new term in the literature of human resources management (HRM) and is too arduous to define (Hughes & Rog, 2008: 743). Actually, it is the upper stage that HRM has reached in related to the knowledge driven society and worker. As comprehended from the word itself, talent management centers upon the talent of the workers. As the sets of the activities and the processes, talent management can be defined as the system based identification of the strategic positions in the organizations which considerably contribute to the organizations' competitive advantage, the emergence of a talent pool of sophisticated leaders to carry out their roles for the assurance of their commitments to the organization itself (Colligs & Mellahi, 2009: 304; Yüksel, 2014b: 282). From here, it can be understood that talent management is a strategic initiative in the organizations concerning the modification of the employees in their best positions that enhance the competitive advantage of the businesses and that render the employees productive. For safe and secure settlement of motivational apparatuses (Miner, 1977: 412), concerning human resource, talent management is a systematic approach that includes the processes of recruitment, leading, specific decision making, which are in line with the human resources procedures and the ideologies of entrepreneurship (Lewis & Heckman, 2006: 140). In the literature, some rules are identified with the implementation of talent management ideologies in the businesses (Khadri et al., 2010: 39, 40; Yüksel, 2014b: 283).

Rule 1: Make an Investment to the Optimization of the Results: The talent management practices are goal oriented via the optimal usage of human resource in the positions that are in coordination with their abilities.

Rule 2: Measurement of Business Impact is Desirable: The results that play a crucial role for the successes of the organizations are the sorts of parameters that measure the outcomes in the businesses.

Rule 3: Use Statistics for Driving Talent Decisions: In the organizations, the statistics are the ways that give an idea of their performance as well as the management of the organizational culture.

Rule 4: Render the staff According to the Ongoing Changes: The perpetual changes in the organizations are the inevitable parts of business cycle. As an example, the fluctuations in the economy, so to say, the economic crisis or some problems in the organizations make the staff be ready for the rapid changes.
Rule 5: Adapt Performance Management Strategies Instead of Goal Oriented Idea: Rather than the objectives, effective performance management strategies shape the organizations in a positive way concerning the use of talent.
As in knowledge management, talent management practice also affects the version of employment procedures on account of the fact they cannot be isolated from the ultimate parameters of information age like (Wellings, Smith & Erker, http://www.ddiworld.com/DDIWorld/media/whitepapers/ninebestpracticetalentmanagement_wp_ddi.pdf Retrieved 07. 01. 2013; Gia, 2008: 7; Yüksel, 2014b: 284, 285);

- ✓ "The determination of the current and future strategies of the organizations.
- ✓ Definition of the talent practices that will bring the organizations to the success.
- ✓ The effective implementations of the talent management in compatible with the strategic objectives of the organizations.
- ✓ Using the correct strategies in the recruitment.
- ✓ Overlapping individual and the organizational objectives, defining the expectations and including the feedback processes.
- ✓ Application of the talent management practices further in every time for the increase of the business performance.
- ✓ Utilizing all the strategies not only for talent management practices but also for the effective use of talent management practices.
- ✓ Assessing the efficiency of the labour force for keeping them updated as always."

4.Knowledge Economy
Knowledge economy which will be "complemented by a set of organizational mechanisms that encourage and promote the sharing/reuse of organizational knowledge" (Kulkarni, Ravindran & Freeze, 2007: 311) can be defined as a term that plays a key role in the production as well as the services based knowledge intensive activities that contribute to the technological scientific progress besides the quick obsolescence. This means that in the knowledge based economy, the primary thing to be taken into account is the knowledge itself and it is to be updated perpetually. Additionally the key component of the knowledge economy is the dependence on the mental in other words intellectual capabilities of a particular person rather than the physical strength or the natural resources. The main arguments mentioned here are the results of the leading sides of the economy especially in the developed countries which is actually driven by the technology and technological devices centered on the knowledge production and spread (Powell & Snellman, 2004: 199).

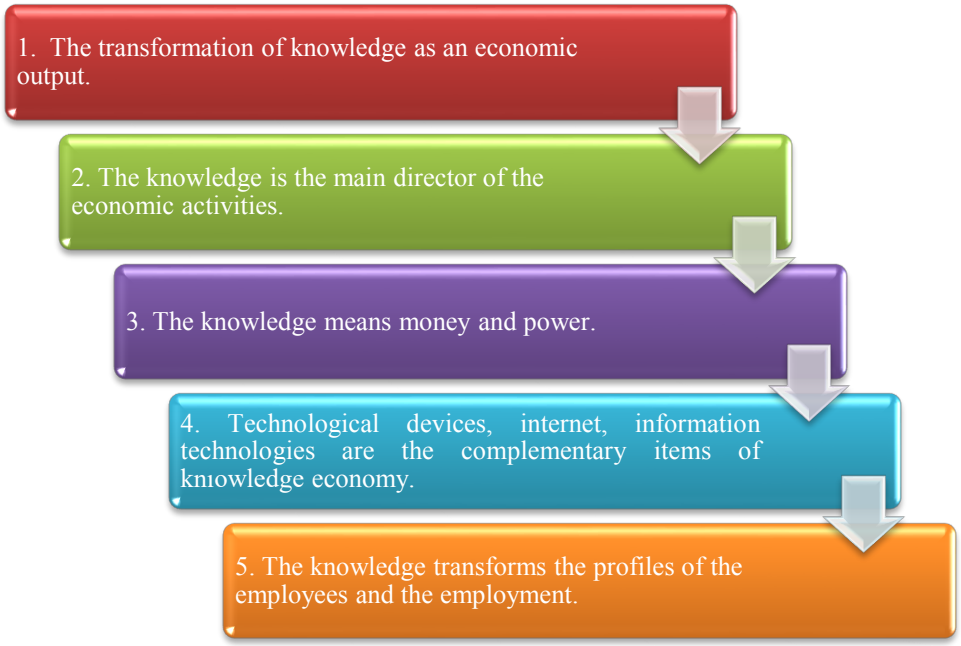
The concept of knowledge economy is the direct results in the development of the new technologies which starter to emerge in the late 1950s and gained momentum with the advance in the personal computers and then systematically become so widespread through the use of email and the internet technology (Powell & Snellman, 2004: 199). All these things make the knowledge as the main important factor in the development of the economy as a result of the high technology investments and high technology industries (OECD, 1996: 7).

The usage of the knowledge economy dates back to the OECD report from 1996 and also the Lisbon strategy in the European Union from 2000 in spite of the fact that the debates about the central role of the concept for productivity and the competitiveness commenced so earlier. The knowledge economy entails the production of the knowledge as a sort of must for the countries along with the innovation. These requirements also necessitate the transformation of the employment policies as well as the employees' profiles (Westeren, 2012: 1, 6).

The emergence of the knowledge economy is the indicator of the human development. It ruins the particular parameters of the agricultural and industrial period. For example, in the agricultural economy, the key source is the land while in industrial economy, natural resources like coal or iron ore as well as the labour are of great significance. On the other hand, in the knowledge economy the key resource is the knowledge which plays an important role in the development of the economy which is not a new idea actually. At the same

time, it is to be demonstrated that knowledge is not a peculiar concept to the knowledge economy or knowledge age, contrarily; it has been used since the period of Industrial Revolution. However, the intensity of the knowledge and its main significance increased in the age of knowledge and it becomes the main dynamics of the economy as well which means that there is a rise in the knowledge intensity of the economic activities and the concept of globalization process (Houghton & Sheehan, 2000: 1, 2).

Figure 2. The Dynamics of Knowledge Economy



Source: (Houghton & Sheehan, 2000: 1, 2).

5.The New Worker Profile: Knowledge Worker

The importance of the knowledge also has a deep impact on the worker and employment profiles. Knowledge worker is the output of the knowledge society who emphasizes the significance of the knowledge. The progress in the knowledge didn't just transform the society, education but also it affected the worker profile and the employment policies. The knowledge skills are quite different from the industry or agriculture skills which can be assessed that the employment tactics of the twentieth century are not the case for the organizational innovation in the age of information. As in the management skills of the organizations, the requirements of the workers strikingly changed. As an example, the basic skills like reading, writing become so irrelevant and inadequate when we enter the twenty first century as the main parameters to be focused in this period is the continual learning oriented knowledge production. Even the skills like computer programming, system analysis and system design have to be redefined again by taking into account the critical in the society (Amar, 2002: 10).

The knowledge workers are quite distinctive from the other workers in regards to their task structures and skill requirements that bring them creative use, manipulation, and the extension of the knowledge. Moreover, The requirements of the knowledge workers are those: continuous job learning, partly formal education, the capability to use modern technology, information and the communication technologies. The knowledge workers also do not work alone they work in teams. Based upon all these, the knowledge workers can be defined as the groups of workers or wage earners whose job meet these criteria: "(1) the use of information technology; (2) independent design of important aspects of the job; and (3) at least upper intermediate vocational training (a college degree) (Pyöria, Melin & Blom, 2005: 14). The differences between knowledge workers and the workers in the industrial revolution are stated below.

- The knowledge workers rely upon their intellectual capabilities while the industrial workers depend on their physical strengths.
- The knowledge worker focuses on innovation but the industrial workers centers on production.
- The knowledge workers are goal oriented. The industrial workers are wage oriented.
- The knowledge workers' objective is the production of the knowledge. However, the industrial workers aim at the production of the commodities.
- There is no time and space limitation for the knowledge workers, but that is not the case for industrial workers on account of the fact that their works are carried out in a limited area, that is, the factory.
- The knowledge workers are educated and skilled but this is not the point for the industrial workers. For example in the early years of the industrialization, the workers are low skilled.
- The instruments of the knowledge workers to produce the knowledge are strikingly different from the industrial workers. Knowledge workers use computers, information technologies whereas the industrial workers utilize the machines in the factory.
- The knowledge workers have the bargaining power as they cannot be replaced easily, but this is not so in industrial workers.
- The knowledge workers view the work as a time demanding activity while the industrial workers regard it as a type of time consuming activity. This means that their perception of the work is quite different.
- The added value of the product of knowledge workers are higher than the others because the knowledge that can be used in the real life is something like the money itself.

CONCLUDING REMARKS

The change is the main paradigms in all societies. Throughout history, there are various events that cause radical transformations in the society like renaissance, industrial revolution, French revolution, knowledge revolution and so on. Particularly from the perspective of industrial relations and labour economics, it can be stated that the knowledge economy shifted the employment procedures as well as the employees' profile. In a way;

- Knowledge revolution increased the standards of the employees.
- An increase in the ability of employees also brought about an increase in the standards of human resource applications, so the talent management practices are to be discussed.
- The employment policies changed as the information become so obsolete in a short period of time. Thus, the employees are to update their talents depending upon the employment conditions. Perhaps, life-long learning activities which adopt the principle of education "from cradle to grave" can be a possible solution.
- The employee characteristics changed as they turn into the workers who produce knowledge and the knowledge is regarded as added value for the economy.
- The knowledge also means money and the power despite some arguments.

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English Language Needs Of The Library Staff: A Study On University Libraries In Turkey

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ABSTRACT
As a part of information society, libraries have to keep up with the recent developments and changes in the field. In this regard, library staff have to obtain various skills for their profession. One of the most important skills is to know a foreign language. This needs assessment study focused on English language needs of people working in university libraries in Turkey. Within the scope of this study, we tried to find out why it was necessary for the library staff to know English. To ensure if library staff need to acquire English language knowledge, we conducted a needs assessment survey consisting of three parts. To begin with, respondents were expected to answer the questions in the first two sections entitled institution and demographic knowledge. They went on to answer the questions related to English language needs in the last part. This part included opinion questions asking about foreign language needs of the library staff. Through these questions we attempted to discover the relationship between the positions of the library staff and their language needs. Moreover, we aimed at identifying the current situation in terms of English language needs in university libraries in Turkey. As a result, all the participants agreed that library staff had to know at least one foreign language, especially English in order to supply quality service in university libraries. The ultimate goal of this study is to make the library staff and universities aware of to what extent English is needed for professional development.

Keywords: Language knowledge, English language, library staff, university.

INTRODUCTION
Because of the latest developments in information and communication technologies, our world is not necessarily a big one or out of reach. Day by day, information supply is increasing as well as the speed of information processing. Not to fall outside the process, we need to keep in touch with everything around us. The best way to connect with the globalized world is ability to understand it. The question of how we can understand the world gets answerable with speaking the same language, even if we do not have similar backgrounds. As a starting point, if it is necessary to describe the concept of 'language', we can share a general definition as it is in the free dictionary. Language is "communication of thoughts and feelings through a system of arbitrary signals, such as voice sounds, gestures, or written symbols". ("Language", n.d., para. 1) Here it is intended to mention a linguistic communication, based upon words or groups of words turning into sentences. To manage such a communication, humans need to have a common language, especially when we think the world as if it were a house with a roof. In today's world, the *lingua franca* is English Because of its importance, English language, rather than other foreign languages is the focus in this study.

With reference to the aforementioned requirements, libraries going beyond traditional understanding now serve as information and document centre. Therefore, they have to keep up-to-date to function properly in a constantly changing and developing world. To be an up-to-date library means to have essential properties such as modern facilities, recent collections and library staff with appropriate skills.

As Çelik (1999) suggests in his study entitled "Personnel Management in Turkish University Libraries", for an institution, staff is the most important resource. That institution can achieve its goals through its staff. In other words, productivity is in direct proportion to human factor. Accordingly, university libraries need skilful staff in order to provide quality service. A study entitled "University Libraries in Turkey: Current Status and the Future" (Çukadar et al., 2011) suggests that there are some problems related to qualities and

quantities in university libraries in Turkey. Accordingly, basic criteria for library staff should include in (a) graduating from the department of information and document management, (b) knowing at least one foreign language (preferably English) and (c) having a Master's degree. Knowing a language as one of the basic criteria highlights the significance of English language in terms of the qualities of library staff when language communication and comprehension is taken into consideration.

Correspondingly, in the report by the Turkish Council of Higher Education (YÖK, 2014) called "2023'e Doğru Türkiye'de Üniversite Kütüphaneleri" [University Libraries in Turkey towards 2023], identifying the current situation in the libraries in Turkey, committee members listed the required qualifications of library staff. Among these qualifications having a foreign language skill (preferably English) was given priority. Moreover, it was expressed that higher education administrators had to provide needed support for foreign language education, in-service training and vocational training. It was emphasized that library staff had to know at least one foreign language for their professional and career development.

THE STUDY

A similar but limited study was conducted by Demirok in 2007. In her study with regard to English language needs assessment of Library Staff, Demirok surveyed 15 library staff at Yakın Doğu University which constituted the target group of the study. 93.3% of the participants thought knowing English was necessary. Moreover, 60% of the respondents stated that they needed speaking skill most. The current study differs from Demirok's study in terms of its scope.

The study titled "Foreign Languages in Academic Librarianship: A Survey of Skills, Use, and Perceptions" (Vetruba & Bischof, 2010) was used to get a general idea about the situation in university libraries in Turkey and the situation in those in other countries. In Vetruba and Bischof's study, non-English language needs of library staff at universities are the focus. Since it is a study conducted in the US and Canada, the library staff most probably know English and need to know some other languages. According to the study, it was stated that as a required language skill, English language was thought to be helpful enough for library staff when compared to the past. In the studies based upon job ads, it was suggested that librarians who knew foreign languages used to be preferred in the past. Decrease in demand for library staff with foreign language skills stemmed from "the increased use of English as a worldwide language of scholarship and commerce". This situation caused the administrators to look for library staff who have "knowledge and experience with information technologies, rather than foreign language skills. (Vetruba and Bischof, 2010, p. 2) Deciding to broaden the scope of their study, Vetruba and Bischof (2010) questioned whether any non-English languages were necessary for library staff. At this point, the current study differed in terms of its objective. Our study was built on English language needs of the same target group in a different country. Although we were aware of the fact that knowledge and experience with information technologies were crucial for library staff, this study just focused on English language needs of library staff. There are a lot of reasons why English language was chosen as a focus. In Turkey in parallel with increase in the number of universities, there are an increasing number of English-medium universities. As a result of globalization, universities have a tendency to recruit international students and hire international academic and administrative staff. To carry out the process successfully, it is vital for people working at universities to be able to speak English at least for communicating properly.

In the case of library, it is possible to mention a world where most of the scientific books and databases are in English. Articles are generally published in English. Contact persons in the companies where Electronic books are purchased use English language to communicate. In such a world depicted in English language, if library staff do not have the needed language skills, it will be really difficult to deal with such requirements.

When all the reasons explained above were considered, it became a necessity to conduct a study based on English language needs. For this study, the survey research method was adopted. First of all, an online survey was designed via Google Docs consisting of twenty questions. The questions were collected under three headings including 'institution information', 'demographic information' and 'foreign language needs' of library staff. Questions were created as multiple-choice question by using five-point Likert scale when needed. At the end of the survey, respondents were given limitless space to write comments and suggestions about the topic. In this survey target population was 178 university libraries in active service in Turkey. The

survey was sent to a list entitled KUTUP-L, which is a membership system with a moderator of which library administrators and staff at 178 universities are members. We got responses from 72 universities out of 178. 115 library staff working at 72 universities responded the survey that ran for two weeks.

FINDINGS

In Turkey, the number of English-medium universities is 9 out of 178. When we considered 72 universities which responded the survey, the English-medium universities and the universities teaching in Turkish & English are totally about 28 per cent when compared to the other universities teaching in Turkish or in other languages. .

Table 1: Language of education of universities where the participants work.

Language of Education	Response count	Response percent
Turkish	77	69.4%
English	4	3.6%
Turkish & English	27	24.3%
Other	3	2.7%

The survey results were first exported to Microsoft Excel and then from Excel to SPSS.

An appropriate sample size was determined by measuring confidence interval of the survey. Moreover, the confidence interval was found to be suitable for precise measurement. Accordingly, the result of the conducted analysis suggested that the 95% confidence interval for lower bound and upper bound was between 80.19 and 100.30. This result indicated that precise measurement was possible through the survey.

Table 2: Descriptive statistical values

Descriptives			Statistic	Std. Error
University where the respondents work	Mean		90.24	5.076
	95% Confidence Interval for Mean	**Lower Bound**	**80.19**	
		Upper Bound	**100.30**	
	5% Trimmed Mean		90.56	
	Median		96.00	
	Variance		2.964E3	
	Std. Deviation		54.438	
	Minimum		1	
	Maximum		178	
	Range		177	
	Interquartile Range		106	
	Skewness		-.102	.226
	Kurtosis		-1.360	.447

Cronbach's alpha reliability co-efficient of the scale in Likert scale questions was found 0.861 as a result of the analysis carried out by SPSS program. Since the value of Cronbach's alpha that is greater than 0.7 is acceptable for reliability, it is understood that this survey is highly reliable.

Table 3: Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.861	.864	12

78.3% of the respondents expressed that they had learned English during and after their university education while 31.3% of the respondents stated that they had learned through language courses.

Table 4: Where/how the respondents learned English.

Where/how did you learn English?	Response count	Response percent
Before university education	44	38.3%
During university education	46	40%
Abroad	10	8.7%
Through language courses	36	31.3%
By myself	17	14.8%
Other	9	7.8%

Participants were asked to evaluate their English language levels in terms of the four skills: Reading, Writing, Speaking and Listening. Accordingly, the following results were obtained:

Table 5: Self-assessment of English level

Level	Reading	Writing	Speaking	Listening	Mean
Beginner	7.8%	10.4%	13%	10.4%	11.3%
Elementary	11.3%	13.9%	24.3%	18.3%	18.8%
Intermediate	30.4%	35.7%	33.9%	32.2%	33.9%
Upper-Intermediate	37.4%	31.3%	20.9%	28.7%	27.0%
Advanced	13%	8.7%	7.8%	10.4%	6.8%

Table 5 shows that 33.9% of the participants evaluated their English level as intermediate while on average 33.8% thought their level of English as upper-intermediate and advanced.

When the respondents were asked how often they needed English language skills in the library, the following responses were obtained on the basis of Reading, Writing, Speaking and Listening.

Table 6: How often English is needed in the libraries.

Frequency	Reading	Writing	Speaking	Listening	Mean
Never	0%	1.7%	4.3%	4.3%	2.6%
Rarely	16.5%	44.3%	39.1%	38.3%	34.6%
Occasionally	40.9%	30.4%	28.7%	33%	33.3%
Often	27.8%	16.5%	19.1%	14.8%	19.6%
Always	14.8%	7%	8.7%	9.6%	10.0%

As suggested in the table above, averagely 62.8% of the participants expressed that they occasionally, often and always needed English language skills. It is necessary to emphasize that especially for reading skill none of the respondents said ‘never’. All the participants suggested that reading was a needed skill in the library.

For the question of in what departments the staff with English language skills are most needed, the following responses were received. The participants agreed that the staff with English language skills were highly needed in various library departments. The percentages of this need varied depending on the departments. 58.3% of respondents agreed that the staff with English language skills were needed in the department of public relations and publicity; 48.7% in the circulation desk; 35.7% in purchasing and collection development; 39.1% in periodicals; 41.7% in cataloguing; 73.9% in management of electronic resources; 68.7% in information technologies. It is important to raise concern about the fact that 73.9 % of the participants expressed that there was a need for the staff with English language skills especially in the management of electronic resources provided by international companies and their international employees. Table 7 suggests that the staff with English language skills are needed in all the departments at an average rate of 39.8%. In Turkey, 27% of library staff at universities stated that their English knowledge was upper-intermediate whereas 6.8% of the respondents evaluated their English knowledge as advanced level. On the other hand, the participants expressed that they needed English knowledge at the rate of 62.8% in the library departments.

Table 7: In what departments English is needed most.

Department of the Library	Strongly Disagree	Disagree	Not Sure	Agree	Strongly Agree
Public Relations and Publicity	0.90%	0.90%	0.90%	39.10%	**58.30%**
Circulation Desk	1.7%	5.2%	10.4%	33.9%	**48.7%**
Rare collection	2.6%	21.7%	21.7%	39.1%	14.8%
Audio-visual Publications	0.9%	9.6%	17.4%	48.7%	23.5%
Department of the visually handicapped	1.7%	13.0%	37.4%	33.9%	13.9%
Purchasing and Collection Development	1.7%	6.1%	3.5%	53.0%	**35.7%**
Periodicals	0.0%	5.2%	5.2%	50.4%	**39.1%**
Cataloguing	0.0%	4.3%	12.2%	41.7%	**41.7%**
Administrative and Support Services	4.3%	17.4%	22.6%	36.5%	19.1%
Management of Electronic Resources	0.0%	0.0%	0.9%	25.2%	**73.9%**
Information Technologies	0.0%	1.7%	1.7%	27.8%	**68.7%**
Mean	1.3%	7.7%	12.2%	39.0%	**39.8%**

Chi-Square Analysis

In the Chi-Square analysis conducted, since p-value (Asymp. Sig.) in Chi-Square tables is greater than 0.05, it is possible to say that library staff at universities held similar views about the necessity of English knowledge. Moreover, Chi-Square tables indicated that there was no difference between the point of views of the staff working at the foundation universities and state universities.

Table 8: English knowledge is necessary for the management of electronic resources.

University Charter	Not Sure	Agree	Strongly Agree	Total
State Universities	.0%	20.3%	79.7%	100.0%
Foundation Universities	2.8%	36.1%	61.1%	100.0%

Table 9: Chi-Square Tests for "English knowledge is necessary for the management of electronic resources"

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	5.823[a]	2	.054
Likelihood Ratio	5.847	2	.054
Linear-by-Linear Association	5.246	1	.022
N of Valid Cases	115		
a. 2 cells (33.3%) have expected count less than 5. The minimum expected count is .31.			

Another Chi-square table showed that the respondents shared the same views about the significance of language of education of the university studied and importance of English in their career.

Table 10: English language is important in professional life.

Language of education of the university studied	**Strongly Disagree**	**Disagree**	**Not Sure**	**Agree**	**Strongly Agree**	**Total**
Turkish	2.0%	.0%	4.0%	22.0%	72.0%	100.0%
Turkish & English	.0%	2.7%	2.7%	29.7%	64.9%	100.0%
English	.0%	.0%	.0%	30.8%	69.2%	100.0%
Other	.0%	.0%	.0%	50.0%	50.0%	100.0%

Table 11: Chi-Square Tests for "English language is important in professional life."

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	5.868[a]	12	.923
Likelihood Ratio	7.023	12	.856
Linear-by-Linear Association	.050	1	.823
N of Valid Cases	115		
a. 14 cells (70.0%) have expected count less than 5. The minimum expected count is .02.			

CONCLUSIONS

When compared to the previously conducted studies, to the best of our knowledge, this was the first study to survey English language skills of the library staff at all the universities in Turkey. Although the survey was sent to 178 universities in Turkey, responses were received only from 72 universities. However, the statistical results showed that confidence interval was suitable for precise measurement and reliability of the survey was high. In other words, the number of the universities surveyed was satisfactory to get a reliable idea about the current situation in libraries at Turkish universities.

As suggested in the results of this study, English language proficiency to supply quality service in the libraries at universities in Turkey has become more of a significant issue. There is a consensus about English language need between the respondents. None of the library staff at universities saw having a language skill as unnecessary qualification. Rather, they regarded English as a much-needed skill.

Responses received as open comments in the last part of the survey also demonstrated that library staff felt the need to acquire at least one language. Furthermore, they thought that English language skills already had to be acquired for their career. If possible, the library staff should learn another foreign language besides English. Most of the participants expressed that they should be offered English courses by their institutions.

To sum up, English as a *lingua franca* was chosen as a goal for this study in order to display the most essential characteristic of an up-to-date library. Even though this may be considered as something of a sensitive issue the study aimed to draw attention to the increasing need of English language skills in university libraries. As a result, it was found that the respondents held the same opinion about that library staff had to acquire English language skills that were a must in the various departments of the libraries. However, this study leaves room for further research into whether library staff at universities need another foreign language in addition to English. A further limitation to this study is that it attempted specify the levels of English knowledge of participants based on their own self-assessment. Future research may consider the use of language proficiency evaluation based on harder data.

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Enhancing Students' Reading Comprehension Performance Through Think And Search Questions. A Study Of Selected Secondary Schools In Kaduna, Nigeria

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ABSTRACT
This study focused on using "think and search" questions to enhance student's performance in reading comprehension. A sample of sixty (60) senior secondary schools from Kaduna metropolis was used for the study. Quasi experimental research design was used for the study. Government Secondary School, Kigo Road was used as the experimental school, while Government Secondary School Ungwan Muazu was used as the control school. Senior secondary two (i.e SS2) students were used for the study. Thirty (30) students (intact class) from each of the schools were used for the study. Both groups were exposed to six (6) weeks of teaching. Prior to teaching, both groups were exposed to pretest to establish the homogeneity of the two groups of students. Both groups were assessed after six (6) weeks of teaching using reading comprehension test. T-test was used to test the hypothesis raised in the study. The findings revealed significant differences in the performance of students taught reading comprehension using "think and search" questions. Teachers are encouraged to enhance students' performance in reading comprehension by engaging students in "think and search" questions during reading comprehension lessons. Curriculum planners and text book writers are equally encouraged to provide think and search questions for students before during and after every reading comprehension passage as a means of evaluating each reading task.

Keywords: enhance student's

BACKGROUND/INTRODUCTION TO THE STUDY
There is no one single best method of teaching reading, but whatever method a teacher chooses to use must take into consideration the particular circumstances and levels of students to be taught (Oyetunde, 2009, Yusuf, 2013, 2014). Definitions of reading comprehension in the past according to Zimmermann (2003) has focused on reader's ability to pronounce all the words, re-tell what happened and answer questions posed by a teacher or test. Questions such as "what is the passage about?" were thought to be enough instruction for meaning to magically appear in the reader's mind. As a result, many students over the years have played the game of "school reading". They could pronounce the words in a reading passage and respond to single factual questions but they had gained little real understanding or insight into the passage. After the test or examination was taken or the paper turned in, the reading task was largely forgotten. This researcher is of the opinion that reading comprehension should go beyond this. Real comprehension should involve thinking, learning and expanding a reader's knowledge and horizons. It should also involve building on past knowledge, mastering new information, and connecting with the minds of authors through their texts.
It is against this background information that this study aims at investigating the effectiveness of using "think and search" questions to enhance students' performance in reading comprehension.

REVIEW OF RELATED LITERATURE
"Think and Search" questions require several pieces of information from the text to complete a correct answer. They require students to "think" about how the information or ideas in the text relate to one another and to "search" through the entire passage to find the information that applies. "Think and Search" questions have answers that are found in different places in several different sentences within the reading text. Students usually, cannot use one finger to point to one specific part of one sentence to find the entire answer, instead, the entire answer requires one to find information in several different places in the text. (Zimmermann, 2003). The competence of using "think and search questions in reading comprehension cannot be over emphasized. As a matter of fact, they are indispensible for creating and strengthening the reader's ongoing dialogue with the text. According to Zimmermann (2003) they help to clarify ideas and deepen understanding. "Think and Search questions" lead students deeper into the reading task, setting up a dialogue with the author, sparking in readers minds what they care about. Think and search questions help readers to think and to constantly be alert or awake as they interact with the reading text. It encourages students to be active, strategic readers. Students often follow an extremely literal or "in their head" approach when answering questions about what

they have read. Using think and search questions help students learn the kind of thinking that different types of questions require, as well as where to go and search for answers in the text. It encourages students to be more efficient and strategic readers.
However, the effectiveness of think and search questions have not been established in secondary schools in Nigeria. This research is therefore aimed at ascertaining the effect of using think and search questions in teaching reading comprehension in senior secondary schools in Kaduna, Nigeria.

OBJECTIVE OF THE STUDY
To determine the effect of using 'think' and 'search' questions on the performance of students in reading comprehension.

RESEARCH QUESTION
What is the effect of using 'think' and 'search' questions on the performance of students in reading comprehension?
HYPOTHESIS
There is no significant difference in the performance of students taught reading comprehension using 'think' and 'search' questions.

METHODOLOGY
A sample of sixty (60) Senior Secondary School students from Kaduna metropolis were used for the study. A quasi experimental research design was used for the study. Government Secondary School, Kigo road was used as the experimental school while Government Secondary School Ungwar Muazu was used as the control school. Senior Secondary two (i.e SS2) students were used for the study. Thirty (30) students (intact class) from each of the schools were used for the study.
Both groups were exposed to six (6) weeks of teaching. Prior to teaching, both groups were exposed to pre test to establish the homogeneity of the two groups of students. Both groups were assessed after six (6) weeks of teaching using reading comprehension test. T-test was used to test the hypothesis raised in the study.

RESEARCH DESIGN
A pre-test, post-test quasi experimental design was used for the study. The pre-test was administered six (6) weeks before students were taught. The pre-test was conducted in order to establish the homogeneity of the two groups. The post test was administered after six (6) weeks of teaching to determine the effect of the treatment on the experimental group.

INSTRUMENTATION
The instruments used for the study were reading comprehension passages from which test items were drawn to encourage and stimulate students to use think and search questions to enhance their reading performance. Three (3) passages selected from Senior English project for secondary schools, students' book 3 were used for the study. The passages were selected because they were educative and interesting to both gender (i.e, male and female students).

ADMINISTRATION OF INSTRUMENTS
A pre-test was administered to both control and experimental groups to establish the homogeneity of the students. The experimental group was taught reading comprehension using think and search questions' for six (6) weeks, while the control group had their normal reading comprehension lessons taught by their teacher. A post-test was administered on the two groups after six (6) weeks of teaching to determine the effectiveness of using "think and search questions" on the performance of students.

TREATMENT

Step 1.	Teacher begins the lesson with short, narrative reading texts. Teacher ensures that students are able to identify and write questions. Teacher introduces the think and search questions.
Step2.	Teacher explains where students can find the answers to questions. (They are usually found in several parts of the text.)
Step 3.	Teacher Models an example to each think and search question, thinking out loud so students can "see" his/her thought process as he/she determines the answers.

Teacher then, generates and provides the answer to the questions. Have students think and search for answers, explain their thought processes. This part of the process can be easier for students if they begin by working in cooperative groups and then make transition to working independently after they show a thorough understanding of this strategy.

Step 4. Teacher introduces cooperative groups so students can read the comprehension passage.

Step 5. Teacher encourages each group to answer the questions and categorize their answers, explaining their thought processes. Teacher provides each group with immediate feedback.

Step 6. After students have been introduced to the think and search questions, teacher should provide them with several reading passages and questions that require thinking and searching for answers for each passage. Have students, individually or in cooperative groups read each passage, identify questions that require thinking and searching for answers. Let them ask, "why do the questions require thinking and searching for answers? Continue to give students immediate feedback. As students become proficient in the use of think and search questions, teacher can use more expository and functional texts.

Step 7. Teacher should provide longer reading passages for students. Tell them the answers to questions are usually found in several parts of the reading text. The think and search questions have different wordings. Answers are usually short answers but may be lengthy a times. Some examples of phrases used for Think and Search questions include:
For what reason…? How did…? Why was…? What caused…?

DATA PRESENTATION AND ANALYSIS

TABLE 1: PRE-TEST MEAN SCORES AND STANDARD DEVIATION FOR TEST NO1

GROUP	TEST	N	MEAN	SD
Experimental	Pre-test	60	43.20	1.32
Control	Pre-test	60	42.50	1.34

Table 1 shows the pre-test mean scores of students and standard deviation for test No1. The experimental group had a mean score of 43.20 and standard deviation of 1. 32 while the control group had a mean score of 42.50 and a standard deviation of 1.34. The data on this table shows the homogeneity of the students from the two groups (i.e. experimental and control).

TABLE 2: PRE-TEST MEAN SCORES AND STANDARD DEVIATION FOR TEST NO2

GROUP	TEST	N	MEAN	SD
Experimental	Pre-test	60	42.20	1.10
Control	Pre-test	60	43.10	1.12

Table 2 shows the pre-test mean scores of students and standard deviation for test No2. The experimental group had a mean score of 42.20 with a standard deviation 1.10 while the control group had a mean score of 43.10 with a standard deviation of 1.12. The data on this table shows that both groups are at par.

TABLE 3: COMPARISON OF THE POST TEST MEAN SCORES OF STUDENTS OF THE TWO GROUPS IN TEST NO1.

GROUP	N	MEAN	SD	DF	T-CAL	T-CRIT
Experimental	60	78.32	2.77			
Control	60	72.50	2.23	118	5.205	0.600

Table 3 shows that there is a significant mean difference between the result of the two groups. The mean performance of the experimental group is 78.32 while that of the control group is 72.50. the t-calculated value is 5.205. The t-critical value is 0.600. The t-calculated is less than t-crit value. Therefore, the null hypothesis which states that there is no significant difference in the performance of students taught reading comprehension using think and search questions is rejected. This means there is a significant difference in the performance of students taught reading comprehension using think and search questions.

TABLE 4: COMPARISON OF THE POST TEST SCORES OF STUDENTS OF THE TWO GROUPS IN TEST NO. 2.

GROUP	N	MEAN	SD	DF	T-CAL	T-CRIT
Experimental	60	79.00	2.72			
Control	60	71.80	2.10	118	3.523	0.600

Table 4: shows that there is a significant mean difference between the results of the post-test of the two groups. The mean performance of the experimental group is 79.00, while the mean score of the control group is 71.80. The t-calculated is 3.523. The t-critical is 0.602. The t-calculated is less than t-critical. Which shows a statically significant mean difference between performance of students taught reading comprehension using think and search questions and those taught without. This means students taught reading comprehension using think and search questions performed better than those in the control group.

Table 1, 2, 3, and 4 indicate that students in the experimental group performed better than those in the control group. One could therefore conclude that the use of think and search questions positively enhanced the performance of students in reading comprehension. It is therefore, a useful tool in providing a basis for students to understand that information from both text and their experiences are important in answering questions. This finding is in line with (Pearson et al 1992, Rumelhart, 1976, Zimmermann & Hutchins, 2003) who asserted that the use of think and search questions leads readers deeper into a text, setting up a dialogue with the author, sparking in readers minds a deeper understanding of the text.

CONCLUSION

Reading comprehension can be enhanced by providing students with opportunities to use think and search questions before, during and after reading comprehension passages. Think and search questions help students search for key words and phrases to locate appropriate information for answering questions. Teachers should therefore be encouraged to use think and search questions with their students before, during and after reading comprehension passages. This will help students to think about how the information or ideas in the text relate to one another and to search through the entire passages to find the information that applies. It also helps students recognize whether or not information is present in the text or they have to read between or beyond the lines to answer the questions. The use of think and search questions should be encouraged by teachers to aid comprehension of students in secondary schools.

RECOMMENDATIONS

1. Teachers should as much as possible encourage students to create their own think and search questions during reading comprehension lessons. Teaching students using think and search questions can help them to ask effective questions as they read and respond to the text.
2. Curriculum planners should include think and search questions as part of student's activities (before, during and after reading exercises) in the curriculum for basic education.
3. Text book writers should include think and search questions for every comprehension passage in the English Language text book.
4. Teachers should use think and search questions to guide and monitor students learning and to promote higher-level thinking in their students. Teaching students the use of think and search questions encourages teachers to be aware of students and their level of thinking and, it also improves the type of thinking they are requiring of their students.
5. Understanding how the think and search questions work is an important component of comprehending texts. Teachers teaching reading comprehension using think and search questions should use such questions before, during and after reading each and every passage. Teachers should make this a "must do" routine activity in every reading lesson.
6. Students often follow an extremely literal or "in their head" approach when answering questions about what they have read. Therefore, introducing think and search questions with relationships help students learn the kind of thinking that different types of questions require, as well as where to go for answers in the text. Teachers should therefore guide and encourage students to be more efficient, active and strategic readers.

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Examination Of Helping Behavior Level Of Physical Education And Sports Teacher Candidates

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ABSTRACT
In this study, which aimed to determine the helping behavior level of Physical Education and Sports teacher candidates, the Helping Orientation Scale was administered on a total of 120 last year student teachers studying in Physical Education and Sports Teaching Department of Kocaeli University. In conclusion, helping behavior of the teacher candidates was not found significant in terms of the variables of age, gender, economic status, year of doing sports, participation in a leisure activity, exposure to violence, type of violence exposure, whereas a significant difference was found in terms of those doing sports for 6-10 years and 16 years over.

Key words: Teacher candidate, helping behavior, physical education and sports teacher.

INTRODUCTION

The term of "prosocial behavior", which is the opposite of antisocial behavior, is stated to be used to refer to helping behavior. It is defined as voluntary behaviors of individuals to reach organizational goals in particular without enforcement. "Prosocial behavior", which is stated to have two sub-dimensions including cooperation and altruism, is also defined as a kind of voluntary behavior which aims to help others such as sharing, helping, supporting and providing care through protection (Brief & Motowildo, 1986; Duru 2002; Eisenberg, Holmgren & Fabes 1998).

It is explained that one dimension of helping behavior is cooperation-oriented and the other dimension contains altruistic behaviors including individuals' thinking about others automatically. The first dimension; cooperation is stated to provide attainment of common objectives, whereas altruism includes voluntary assistance to others without expectation of any benefits or rewards (Bora, 2015; Duru, 2002; Podsakoff et al., 2000).

It is said that there are four subcategories of helping behavior. One of them is Altruism, even though altruistic people help others continuously, they require comparatively less help. Furthermore, Exchanging-behavior is characterized by high levels of requiring and providing help. Thirdly, Self-contained persons provide low levels of help but at the same time also seeking low levels of help. Finally, Selfish people are marked by low willingness to help; however, those people seek high levels of help from others for themselves (Romer, Gruder, & Lizardo, 1986).

When the studies on helping behavior were examined, it was seen that there were very few studies in educational environments, studies were mostly carried out in the field of business and the issue took place as organizational citizenship behavior in this field. It was stated that the concept of " organizational citizenship behavior", which was reported to be business and management oriented, first took place in business management literature in 1983 and the dimension of altruism referred to helping colleagues voluntarily in terms of school in educational environments, (İşbaşı, 2000; Sezgin, 2005).

Organizational citizenship behavior is defined as employees' performance of voluntary effort and extra role behavior out of job description in work environment (Organ, 1988; Schnake & Dumler, 2003). It was also mentioned to be associated with voluntary behaviors intended to make a social and psychological contribution to an organization or institution, to help co-workers and colleagues, to use the working time effectively and to achieve a goal (Kaskel, 2000; Lievens & Anseel, 2004; Sezgin 2005). It was also stated to include voluntary behaviors such as provision of prior notification of absence from work and over participation in work such as helping a work friend who had not come to work or a co-worker who had just started work to socialize even if there was no official enforcement, supporting the management in overcoming difficulties, suggesting new ideas and taking a leave for less than deserved (Kelloway et al., 2002). It was determined that in Turkey, the studies on organizational citizenship behavior were generally conducted in the field of business and management and the studies examining it in terms of school in the dimension of education were limited (Oğuz, 2011; Ölçüm, 2004; Sezgin, 2005).

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Considering all these explanations, it was wondered what the level of helping behavior was especially in Physical Education and Sports teachers, who would work in a branch considered more social, in terms of the teachers taken as the role models by the individuals constituting the society no matter what the field was. Based on this main question, the answer to the question what the helping behavior of Physical Education and Sports teacher candidates, who provided an important support in the socialization of students and development of the feelings of cooperation and sharing in school environments and had an important role in teaching sports, was like was searched for and the level of their helping behavior was tried to be assessed in this respect. In line with this purpose, helping feelings of the Physical Education and Sports teacher candidates studying at the School of Physical Education and Sports of Kocaeli University were determined and it was examined whether these feelings differed by the variables of age, gender, status of amateur or professional sports performance, exposure to violence, type of violence exposure and existence of any leisure time activities.

METHOD

Research group: The Helping Orientation Scale and a 9-question information survey were applied to a total of 102 teacher candidates attending the final grade at the Physical Education and Sports Teaching Department of Kocaeli University in the academic year of 2013-2014 to determine the socio-demographic attributes.

Data Collection Tools: The Helping Orientation Scale, the adaptation study of which was carried out by Duru (2002), was structured to measure the helping reactions which individuals could give depending on the four different types of personality including altruistic, exchanging, self-contained and selfish in 23 real life situations in a way that each question would reflect the reaction of a personality type. In the studies on the reliability of the scale, test-retest reliability was found as $r(84)=.75$, $p<.01$ (Duru, 2002).

Data Collection: In order to collect the data, the scale was applied to a total of 102 students studying at the Department of Physical Education and Sports Teaching at the School of Physical Education and Sports at Kocaeli University based on voluntariness.

Data Analysis

The data obtained from the study was analyzed statistically and its significance was tested at the level of 0.05. During the statistical analysis, Mean and standard deviation values were used to determine the scores obtained from the The Helping Orientation Scale. According to the test of normality, it was determined that the data showed normal distribution, and independent group t test was used for the two-set comparisons or one way analysis of variance (one way-ANova) was used for three or more-set comparisons.

FINDINGS

The helping behavior of Physical Education teacher candidates was determined not to show a statistically significant difference in terms of gender, whether they had hobbies or not and whether they were exposed to violence or not [Table 1].

Table1: Examination of the sub-scales of Helping Behavior of Teacher Candidates according to gender

Variables		**Altrustic**		**Exchanging**		**Self-contained**		**Selfish**	
		mean±sd	P	mean±sd	P	mean±sd	P	mean±sd	**P**
Gender	Female	8.85 ±3.68	.744	4.65± 2.36	.485	1.87 ±1.66	.746	2.85 ±1.56	.701
	Male	8.63 ± 2.85		4.36 1.75		1.97 ±1.61		2.97 ±1.69	
Leisure Time Activity	Yes	8.83±3.70	.895	33±1.97	622	79±1.71	467	3.20±1.55	.307
	No	8.73±3.20		4.57±2.14		98±1.61		2.80±1.63	
Exposure to Violence	**Yes**	9.21±3.75	.508	3.89±1.91	.151	1.52±1.71	.244	2.47±1.92	.093
	No	8.65±3.21		4.66±2.12		2.01±1.61		2.78±1.52	

No significant result was found in the factor analyses performed according to the age, the income level, the sports performance status of the Physical Education and Sports teacher candidates, the environment where they were exposed to violence and the type of violence exposure, whereas the difference was found to be at the limit of significance in terms of exchange behavior according to sports performance year [Table 2].

Table.2 Factor Analysis Results of the sub-scales of Helping Behavior of Teacher Candidates (One Way ANOVA)

Variables		Altrustic		Exchanging		Self-contained		Selfish	
		mean±sd	P	mean±sd	P	mean±sd	P	mean±sd	P
Age	18-20	11.0±-		5.0±-		00	.	3.0 ±-	
	21-23	8.53±3.5		4.59±2.3		2.18 ±1.57		2.90 ±1.52	
	24-26	8.60±3.09	.263	4.72±1.85	.128	1.62 ±1.59	.250	2.95±1.78	.988
	27 and over	11.0±2.7		2.71±1.11		1.85±2.11		2.71±1.70	
Income Status	1000 tl and under	7.72±4.33		4.90±2.34		1.72±1.48		3.36±2.37	
	1001-1500	8.38±3.07	.135	4.80±1.99	.288	2.41±1.84	.161	2.66±1.49	.216
	1501-2000	10.19±3.41		3.76±2.16		1.66±1.39		2.52±1.83	
	2001 and over	8.58±2.97		4.58±2.06		1.61±1.51		3.26±1.23	
Sports Status	Amateur	8.94±3.35		4.49±2.18		1.91±1.54		2.75±1.69	
	Professional	8.67±3.6	.502	4.41±1.97	.197	1.93±1.63	.993	3.11±1.55	.540
	Other	6.66±5.13		6.66±2.08		2.0±3.46		2.66±1.15	
Sports experience Year	0-5	8.80 ±2.24		4.53±1.76		1.66±1.04		3.20±1.42	
	6-10	8.77±3.50	.717	4.84±2.32	.052	1.95±1.66	.675	2.62±1.63	.458
	11-15	9.63±3.72		4.68±1.83		1.86±1.81		3.03±1.76	
	16 years and over	-		2.91±1.81		2.45±1.86		3.27±1.42	
Violence Environment	Sports Environm.	9.60±3.89		3.50±1.65		1.70±2.00		3.30±1.82	
	Non-sports	10.20±4.43	.881	3.40±2.07	.084	8.00±.44	.617	3.80±2.48	.481
	Both	8.0±-		8.0±-		100±-		1.00±-	
Type of Violence Exposure	Psychological	11.37±3.11		3.12±1.72		1.25±1.66		2.50±1.51	
	Physical	8.00±00	.180	5.00±1.41	.409	.500±.707	.641	4.50±.707	.212
	Both	8.00±00		4.14±.2.26		1.714±1.7		4.14±2.41	

The Tukey Test was applied to determine between which years this difference, found to be at the significance level according to sports performance year, was observed. As a result of this implementation, the difference between those who performed sports for 16 years and over and those who performed sports for 6-10 years was found significant against those with 16-year and over sports performance according to exchange behavior and at the significance limit in terms of those with 11-15-year sports performance [Table 3].

Table.3 Tukey Test Results of the sub-scales of Helping Behavior of Teacher Candidates (Exchange Behavior Performance Year According to Sports)

Acording to 16 and over year	Averages the difference between	sd	Sig
6-10 year	1.93535	.69405	**.032**
11-15 years	1.7806	.73069	**.077**

DISCUSSION AND CONCLUSION

Although the results were not found significant when the helping behaviors of Physical Education and Sports teacher candidates were examined according to gender in terms of personality types, the altruism, exchanging scores were found high in favor of female students and the self-containment and selfishness

scores were found high in favor of male students. The fact that the difference between these scores was compatible with the social gender role learnings; especially females' upbringing in a giving way and males' upbringing in a self-contained way and male oriented service giving (Belansky & Boggiano, 1994; Dökmen, 1997), were thought to be effective in the selfishness scores being high in favor of females. Considering the limited number of studies performed, there are studies finding no significant difference according to gender in terms of total scores supporting our findings, research results supporting our findings were also encountered in the studies on organizational citizenship behaviors considered as helping behavior (Baş & Şentürk, 2011).

In the research, no significant results were found according to whether the teacher candidates had hobbies they dealt with in their leisure time. Nor was the helping behavior of the teacher candidates found significant according to their violence exposure status. Examining the literature studies, no studies evaluating violence exposure and helping behavior were encountered. The altruistic, in other words voluntary, behavior scores of those exposed to violence, especially psychological violence were determined to be high and the self-contained behavior scores to be low. When these results were interpreted with the literature information that those who are bullied and exposed to violence experience feelings of helplessness (Çalık et all. 2009), it was thought that besides the helplessness feelings occurred as a result of violence exposure, especially psychological violence, an approach to understand the needs of others was developed, and therefore events were approached less selfishly, however there occurred a decrease in the feelings related to self-confidence.

Considering the relationship between the helping behavior and the other variables in the study, no significant results were found in terms of the environment where violence was exposed, age, income level or whether the sports was performed professionally or not.

Considering the sports performance year, it was found out that altruistic, that is voluntariness, behavior scores of those doing sports for 11-15 years were the highest and the scores of both altruistic and exchange behavior of those in the 16-year and over group decreased; however, the scores of self-contained behavior increased. The decrease in the scores of exchange behaviors, the increase in the scores of self-contained behaviors and these results being found significant in the Tukey test analysis indicated that there occurred a decrease in the scores of caring for others and helping behavior towards them when the sports performance year reached 16. When interpreted with the fact that these results were found significant and the sub dimensions of colonialism, superiority and self-contained including states such as self-confidence, independence, self-contained, which are claimed to be some of the narcissistic characteristics of the athletes, (Gülmez 2009; Tazegül, 2013), it was thought that our findings need to be evaluated with more detailed studies together with the information about the success status of the people doing sports and whether they are athletes recognized by the society.

Consequently, it is important to plan detailed studies on the issue with the physical Education teacher candidates both as role models and as educators for the proliferation of voluntary behaviors and active citizenship characteristics in the society. It is suggested that it would be appropriate to prepare study programs and syllabuses which encourage voluntary behaviors especially by working with teacher candidates and to apply studies and course contents which develop helping and empathic approaches within the scope of Community Service Applications course.

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Expert Consensus On Dimensions Of Islamic Values In Quality Management Practice: Analysis Of Fuzzy Delphi Method

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ABSTRACT
Though quality management initiated in the West at the advent of Industrial Revolution, contemporary scholars elaborated similar principles from Islamic perspectives. A plethora of Islamic values have been consistently highlighted, including behavioral description of its application in quality management practice. While limited effort has been conducted to verify and validate a set of values, this study utilizes the Fuzzy Delphi Method (FDM) to reach an expert consensus on a set of Islamic values in quality management. For that purpose, an expert review questionnaire is developed and administered among experts. The questionnaire is constructed based on extensive literature review by Ishak and Osman (2015), focusing on Islamic perspectives of quality management. This article conceptualizes and proposes eight Islamic value dimensions based on results of FDM.

1. INTRODUCTION
The mainstream quality management emerged in the West initiated by players of the Industrial Revolution. Thus, its philosophical foundation has been largely dominated with the western culture, which has been criticized as narrowly focused to outputs (al-Buraey, 1985; Syed Othman, 1996; Naceur, 2005). Nevertheless, the rise of Japanese after disastrous World War II had been an eye opener to the non-western culture influence in quality management. This is due to the fact that the Japanese implemented it within the scope of their culture (Ishikawa 1985; Naceur, 2005). In a book written by Ishikawa (1985), entitled 'Quality Management the Japanese Way', the Japanese are described to favor collectivism in work, cooperative, loyal and family centred. In contrast, the Americans are described with individualism. The Japanese are also known to initiate the practice of quality circles as a platform to disseminate knowledge and experience between organizational members. These attributes have played an important role in rejuvenating the devastating state of Japanese economy after World War II (Khaliq & Shamim, 1996).
It was not until the late 1990s that contemporary scholars first began to conceptually discuss Islamic perspectives in quality management (Khaliq, 1996; Khaliq & Abulhasan, 1996; Syed Othman et al.,1998). Similarly, they highlight a variety of Islamic values in quality management practice. They even claim that these values are conducive for a quality management context and may improve its implementation (Khaliq, 1996; Sidani & Thornberry 2009). Nevertheless, none of these authors present a conceptual definition of Islamic values. And yet, empirical analysis on the matter is scarce.

Fortunately, in the last few years, research in the area has been expanding (Mazilan & Shaikh, 2005; Siti Arni Basir et al., 2010; Siti Arni & Ilhaamie, 2011; Ilhaamie et al., 2013; Sany et al., 2011; Maqbouleh, 2012; Ishak & Osman, 2015). Notwithstanding the growing interest, the discussion remains conceptual, narrowly focusing on the list of Islamic values. Moreover, as far as the researcher's concern, no empirical data has been reported which scientifically explains the application of values.

As the topic of concern has been scarcely published in respected journals, this article intends to fill in the gap. It will propose a conception of Islamic quality management as elaborated by scholars in the literature. Subsequently, utilizing an eight dimension framework developed by Detert et al. (2000), this article aligns the framework with Islamic values. This article then reports on a Fuzzy Delphi Method which scientifically explains an expert panel's consensus on the selected dimensions.

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2. EXPLORING ISLAMIC VALUES IN QUALITY MANAGEMENT

Islam has been revealed to Prophet Muhammad SAW since his prophethood in 609 CE until 632 CE. Its revelation have successfully reform the conditions of the pagan Arabs from corruption and harmful customs. Islam offers a systematic regulated way of life which caters the interest of the whole society. Islam calls for safeguarding benefits and avoid detriments. Islam prohibited interest due to its tyranny towards the poor and needy; fornication due to its exploitation of women and damage of family ties; alcohol due to physical and emotional damage individually and collectively. Despite certain prohibitions, as a replacement to the prohibitions, Islam obligated and suggested modes of just and transparent business dealings, marriage for a proper relationship between man and women and a wide range of *halalan tayyiban* (permissible and good) foods and beverages which is wholesome and beneficial to be taken by man. These unexhausted list of life guidance have reformed human conditions encompassing all facets of life (Philips, 1995).
Islam also emphasizes *akhlaq* or good conducts, and Prophet Muhammad was sent as The Messenger, also as an exemplar for man. Since the demise of The Prophet, the Muslims are left with two authentic sources which are relevant irrespective of time, space and locality. The two sources refers to the Quran, defined as the book of words of God; and the *Sunnah*, or Prophetic traditions, defined as sayings, actions and tacit approval of Prophet Muhammad.

Akhlaq, an Arabic word, is among the seminal principle of Islam. Simply translated, it refers to Islamic values, or a set of ethics or good values grounded on the bases of the Quran and Prophetic traditions, which permeates all spheres of human life (Hamzah, 1978 and Kettani, 1984). In management, a value, according to Syed Othman & Aidit (1994), refers to something the society believes strongly on its positive or negative. They define Islamic values as the preferred values originate from the shariah. It is grounded by the belief system and inferred by the revelation. As the revelation do not directly inferred the values, studies often refer to the elaboration made by contemporary scholars. Such reference has been utilized by Abbas (1987) in developing the Islamic Work Ethic Scale, Monir (1997) in defining the Islamic perspectives on human resource management and Forster & Fenwick (2014) in analysing the influence of Islamic values in Moroccan management practice. Therefore, this study proposes Islamic values as a set of good values underpinned with the Quran and Prophetic traditions.

Contemporary scholars have consistently produce writings on quality management from Islamic perspectives. The major similarity in their work is the elaboration on a list of values embedded in the practice of quality management. Based on the compilation by Ishak & Osman (2015a), there are 17 identified fundamental values underpinned with Quranic verses and Prophetic traditions. The values include justice, honesty, responsibility, innovativeness, knowledgeable, cooperation, brotherhood, consultating others, sincerity, good intention, optimism, consistent, thankfulness, compliance, value time, accountable and patience. However, elaboration of the values is not the crux of this paper. Table 1 summarizes the values which have been refine utilizing Detert's framework.

As far as the researcher's concern, discussion on quality management mainstream and Islamic perspective highlight similar approaches and techniques. However, elaboration on Islamic perspectives is linked with various list of values underpinned with primary source of Islamic teachings, the Quran and Prophetic tradition. Therefore, this article conceptualizes Islamic quality management as Islamic values applied in quality management.

3. METHODOLOGY

As elaborated by Chang & Hsu (2011), FDM is a modified version of classical Delphi. It is a useful tool of data collection to draw numerical and objective of dimension's validity. It is also beneficial when arranging an expert panel for a parallel meeting is impossible. FDM seeks expert

Table 1: Islamic Value Dimensions highlighted in literatures related to QM from Islamic perspectives.

	Reference	Base (Quranic verse or Prophetic tradition)	Proposed dimension	Conception
1.	Abulhasan (1996), Nik Mustapha (1998), Syed Azauddin (2005), Mazilan & Shaikh (2005), Khaliq (2008), Siti Arni et al. (2010), Sany et al. (2011), Yusuf & al-Buraey (2011)	"And pursue not that of which you has no knowledge; surely the hearing, the sight and the heart, all will be questioned" (Surah al-Isra' : 36)	Bases of truth	The extent organizations emphasize and rely on facts and truth, avoiding arbitrariness.
2.	Syed Othman (1996); Abulhasan (1996); Alhabshi (1996); Nik Mustapha (1996 & 1998); Syed Azauddin (2005); Khaliq (2008); Siddiq et al. (2010); Siti Arni et al. (2010), Mohamed & al-Buraey (2011); Sany et al. (2011)	The Prophet SAW is reported have said; "Allah loves those workers who perform their works to the best of their abilities (Riwayat Baihaqi)	Diligence in work	The extent organizations pursue perfection in its work orientation by reflecting diligence and carefulness in its activities.
3.	Nik Mustapha (1996); Alhabshi (1996); Khaliq (1996 & 2008); Abulhasan (1996); Syed Azauddin, (2005); Mazilan & Shaikh (2005), Mohamed & al-Buraey (2005); Siti Arni et al. (2010); Sany et al. (2011)	"Verily! Allah commands that you should render back the trusts to those, to whom they are due." (Surah al-Nisa, 4:58)	Trust fulfilment	The extent organizations fulfill trusts/ rights of relevant stakeholders; the customers, suppliers/ relevant stakeholders, staffs and the society.
4.	Nik Mustapha (1996); Abulhasan (1996); Khaliq (1996); Alhabshi (1996); Syed Azauddin (2005); Mazilan & Shaikh (2005); Mohamed & al-Buraey (2011)	"…surely Allah does not change the condition of a people until they change their own condition…" (Surah al-Ra'du: 11)	Openness to change	The extent organizations demonstrate ability to cope with changes, explore opportunity to change, initiate change, facilitate or support change.
5.	Khaliq (1996); al-Buraey (2005); Syed Azauddin (2005), Sany et al. (2011)	"Nor say of anything, I shall be sure to do so and so tomorrow" (Surah al-Kahfi: 23)	Value time	The extent organization value time in completing tasks
6.	Nik Mustapha (1996); Syed Othman (1996); al-Buraey (2005); Khaliq (1996 & 2008); Syed Azauddin (2005); Siti Arni et al. (2010); Siddiq et al. (2010)	"Help one another in furthering virtue and God-conciousness, and do not help one another in furthering evil and enmity…" (Surah al-Maidah, 5:2)	Cooperation	The extent organization collaborates in harmony reflecting the sense of belonging and responsibility
7.	Syed Othman (1996); Nik Mustapha (1996); Mazilan & Shaikh (2005); Syed Azauddin (2005); Khaliq (2008); Sany et al. (2011)	"O you who believe! Obey Allah and obey the Messenger and those in authority from among you.." (Surah al-Nisa': 59)	Compliance	The extent organization complies to three forms of stipulation; i) the shariah, ii) internal stipulation, and iii) external regulation.

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8.	Nik Mustapha (1996); Syed Othman (1996); Syed Azauddin (2005); Khaliq (2008) and Sany et al. (2011).	The Prophet SAW was asked, "What deeds are loved most by Allah?" He said, "The most regular constant deeds even though they may be few." (Sahih Bukhari)	Consistent	The extent organization pursue effectiveness by having strong practices which are consistently implemented.

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consensus using a Likert scale questionnaire format. The scores are then converted into fuzzy numbers derived from a mathematical fuzzy Delphi formula, where a d value is calculated. Decisions are made based on d value of lesser than the threshold of 0.2 (<0.2). A d value <0.2 should be accepted. For a d value of greater than 0.2 (>0.2), decisions should be made on a percentage of agreement among the experts. Normally, agreement of greater than 75% (≥75%) should be accepted (Chang & Hsu, 2011). Following their procedures, FDM in this study involves three steps;

1. Determine the appropriate linguistic variable, shown in Table 2.
2. Convert the linguistic variable into fuzzy scale, also shown in Table 2. Each fuzzy scale consists of three values; the most minimum, appropriate and maximum values which will be selected by the experts. The three values are also known as triangular fuzzy numbers.

Table 2: Linguistic variables and the associated fuzzy scale (adapted from Chang & Hsu 2011 and Davis, 1992)

Linguistic variable	Fuzzy scale	Likert scale
Highly relevant	0.6, 0.8, 1	5
Relevant	0.4, 0.6, 0.8	4
Moderately relevant	0.2, 0.4, 0.6	3
Not relevant	0, 0.2, 0.4	2
Extremely not relevant	0, 0, 0.1	1

3. Compute the d value, which equals to the distance between the average fuzzy evaluation and the expert's evaluation, utilizing the formula of;

$$d(\tilde{m},\tilde{n}) = \sqrt{\frac{1}{3}\left[(m_1 - n_1)^2 + (m_2 - n_2)^2 + (m_3 - n_3)^2\right]}.$$

shold value of 0.2, to consider

4. Compare using two threshold, the d value and percentage of consensus. For items which do not fulfil both thresholds, the particular item should be rejected or a second FDM is required.

Based on extensive literature review, a special questionnaire was developed. There are eight dimensions and a total of 44 items in the questionnaire. The questionnaire requests the experts to rate the relevance of each dimensions and items following a five point Likert scale (refer Table 2).

The questionnaire was then distributed among participants of Islamic Quality Management Seminar organized by Universiti Utara Malaysia on the 8th and 9th December 2014 in Putrajaya, Malaysia. The seminar had gathered academicians, industry practitioners, researchers and postgraduate students whom are knowledgeable with the topic of concern. 30 questionnaires had been distributed in the two day seminar. 17 returned questionnaires were usable for data analysis, producing a response rate of 56.7%. The respondents are academicians, industry practitioners including fulltime and part time postgraduates whom possess an average of 13 years' experience (the minimum years of experience is six years, while the maximum is 23 years). The response by 17 experts is considered sufficient for a FDM analysis as Adler & Ziglio (1996) suggest a number of experts between 10 to 15.

4. FINDINGS AND DISCUSSION

Table 3 shows the summary of d values for each dimension and the percentage of agreement. Based on the d values of above 0.2, and percentage of above 75%, all dimensions were accepted. The decision was based on an expert panel agreement, which had been analyzed using triangular Fuzzy numbers, as elaborated in Section 3 of this paper.

Table 3: Summary of FDM results

Dimensions	d value	% of agreement
Trust fulfillment	0.0074	92
Diligence in work	0.0098	93.71
Openness to change	0.0106	95.55
Value time	0.0072	84
Cooperation	0.0082	95
Compliance	0.012	96.67
Consistent	0.0101	98.33

5. IMPLICATION AND FUTURE RESEARCH DIRECTION

There are two important points which impacted the researcher upon completing this research. The first relates with the methodology employed, while the second refers to findings of the research.

These researches employed FDM, a modified Delphi technique which is a systematic methodology to inductively proposed an agreed set of dimensions. The method has been widely used for similar purposes in recent studies. In marketing, Hanafizadeh and Mirzazadeh (2011) employed Fuzzy Delphi to confirm dimensions and items of a scale to identify market segmentation. Similarly, Prusty, Mohapatra and Mukherjee (2010) approved a set of dimensions and items of a scale to analyze strategic planning, while Hung, Chou, & Tzeng (2008) approved a knowledge management capability measurement. On top of that, in education, Nurulrabihah et al. (2013) proposed valid constructs for benefits of using facebook for educational purposes.

In general, FDM enables the researcher to define and validate a list of characteristics which initially only based on literatures. As compared to traditional Delphi, FDM requires minimal time and resources. Additionally, the use of expert judgment has been simplified through the suggested FDM procedures, as explained in section three. It also enables scientific analysis of expert judgment rather than traditional approach of Delphi, which requires a cognitive effort to repetitively record, sort and categorize several rounds of experts' judgment until the researcher arrive at a saturated consensus. Furthermore, FDM overcomes burdensome among the respondents (experts) as they might have tight schedules, thus approaching them several times might be a challenging task for researchers. Therefore, FDM facilitates both the researcher and respondent.

In this study, analysis of FDM listed eight dimensions of Islamic values in quality management practice. Though the expert panel comprises of both academia and industry, future research may further confirm the dimensions with international expert panels for a more universal and generalized consensus. Such analysis is also important to detect any differences across cultural practices. Moreover, further research in the area may discover unique best practices which may insight other organizations to improve their current practice.

The findings from this study is relevance to all those involved in quality management. Organizations may use the dimensions to understand and analyse their own implementation of values. Additionally, standardization authorities may use these dimensions to improve current standards, or to revise current review criteria for quality improvement. Meanwhile, the researcher may further develop an instrument to assess application of Islamic values in quality culture in organizations. The instrument may further expand empirical analysis on the area.

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Function Means Analysis For Ablution Concept Solution

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ABSTRACT
The challenge of current trends in design research and point out some of their activities, such as the gap between aesthetic and technical need, and the chasm between ambiguous and quantified in design practice. So, it is hardly to surprising the product designers fail to combine a systematical methodology in analyzing design activity. This paper will assess the comprehensible and abilities of Function Means Analysis in mapping and analyzing design activities. We summarize some current trend and commonly accepted standards in design research. This paper thus attempts to provide a practical guidance to researcher and discuss a few key demands on structuring a new concept of design such foundation, include with the design principles and monitoring used for concept solution strategy. The establishment of basic structure is achieved by connecting one process of each ablution sub-function. The basic arrangements, which become as principle seem satisfactory by, explore a number of concept sketches with possible arrangements of ablution models.

INTRODUCTION
The purposely creation of artifacts demand is depend on what exactly the requirement or needs and what suit the form structure of artifact must visualized and validate the required way (Anwar et. al., 2015). This consideration is typical for any design activity, and problem-solving approach in design activity used to be the main issue to be discuss among designer in any engineering discipline. "Old Master" obviously remains practicing these approaches in such a way of design thinking (Abidin et. al., 2008). However, any design activity normally discussed on specific type of application domain. For examples, industrial design refers to the design of industrial products that associated to visual elements. Visual elements form part of the attributes of form that create tone and texture, imparting visual interest and meaning (Abidin, 2012). "Design" can be based on patterns in nature and on mechanical functions. It can also be based on other factors such as the use of code of language, semantics, symbols, reproductions, or the individual choices of the designer.

In ceramic sanitary ware design (CSWD) the most crucial situation is to introduce a leap forward design especially on the form-generation (Anwar et. al., 2014). It could be concluded that formgiving involvement is a keywords to enhance the aesthetical value in design process. Many designers used the term 'shaping' rather than 'designing' on structuring the design concept. In this paper, we intend to provide some viewpoints about introducing a new sub-sanitary ware design concept based on morphological analysis perspectives. We realize potential and advantages in designing ablution tub design. Ablution was state is a prerequisite of praying (Johari et. al., 2012). The form-generation introduce will base on the understanding of Muslim most important practice (ablution) in their daily life. It's continues with the elements and properties of conventional or existing product form on current ablution practices. As a part of introducing a new design structure, morphological analysis is extended to purposely identify the most possible shape, material and mechanism. It's aim to propose and provide and efficient model for concept solution through Function Means Analysis. With an appropriate measurement system based on the scale of the human body, built with a suitable material, and finally, this concept can resolve the problem that faced by the conventional ablution design structure.

REVISITED THEORY OF FORM GENERATION THROUGH COMMUNICATION THEORY
Tjalve (1979) has presented a procedural model for product synthesis as shows on figure 1. The propose model start with problem analysis that gives the main functions. It can segment as sub-functions that can be solves with means. The

mean can be combine into basic structure where the varied means from structure variation can come to a quantified structure. Defining the quantified structure has to deal with a Total Form (aesthetic demands) and Form of Elements (technical and economical demands).

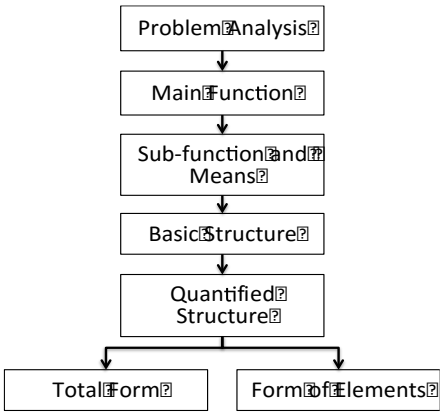


Figure 1. The model of product synthesis, showing the stages in the creating the product (Tjalve, 1979)

Since the aesthetic demand in form became a crucial situation in any product development; Xenakis (2013) expanded the aesthetically-oriented emotions influence design participants towards creating, communicating and using those design representations that will bring them closer to their goals. Figure 2 below shows the aesthetics interaction on evaluating the interactive alternatives assist the user to goal achievement by construct such meanings that will make clearer the way (action pattern). The concept of signal messaging is crucial in the design of product. However, the use of product semantic can contribute to make the use of products self-evident. At the same time, product semantic can help to supply products with a distinct character automatically develop the products culturally meaningful (Butter, 1987).

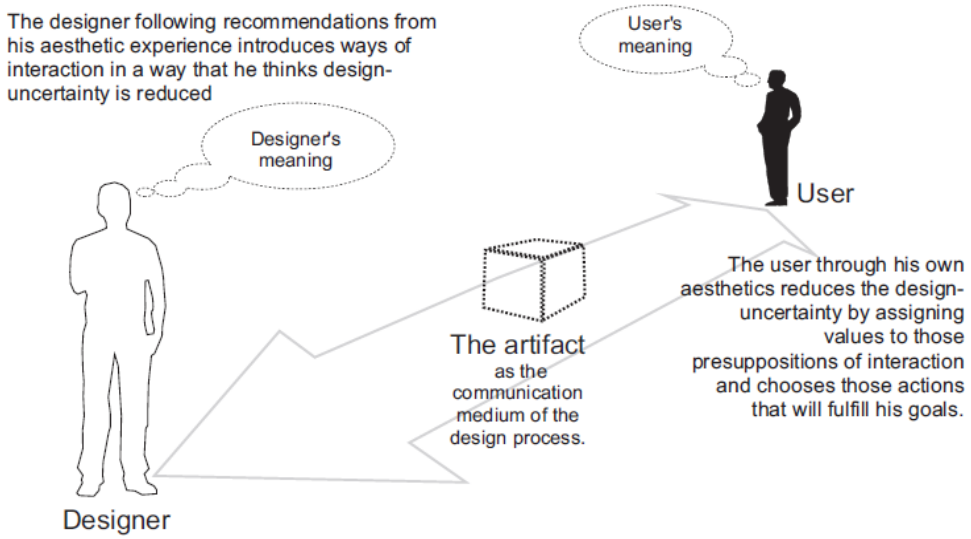


Figure 2: The design process. (Xenakis, 2013)

As regards by Buur & Andreasen, the signal as created by a sender and transferred through a medium of some sort to the receiver and during transmission, the signal may be distorted (Warell, 1999). However, product semantic has seen as implementation of product-user communication in the sign of the product (Butter and Krippendorff, 1984). Figure 3 shows the model projected by Monö (1997), messages are encoded into the product by the designer (the sender). These messages are carried by the physical product gestalt (the combination of form, color, texture, structure, etc.), and eventually decoded by the user (the receiver of the message). There are four types of semantic function (describing, expressing, exhorting, identifying) in Monö's model as a basis for the communication of meaning between artefacts and users.

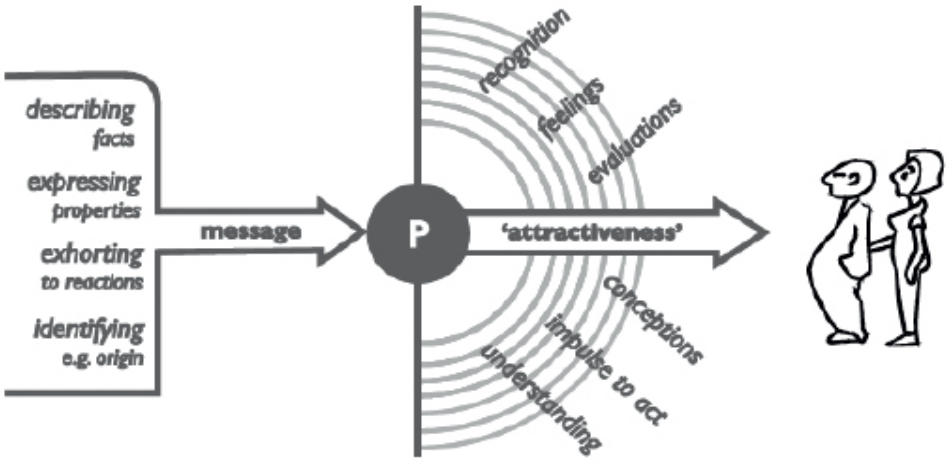


Figure 3. Monö's (1997) model of the communication process

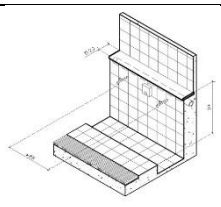
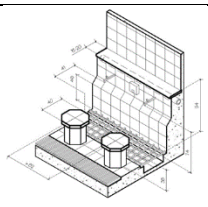
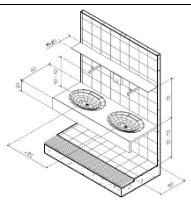
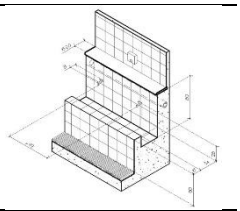
ABLUTION FUNCTION MEANS ANALYSIS

The product synthesis, takes as its starting point the two outputs from the problem analysis, namely formulation of the desired function and the list of desired properties (Tjalve, 1979). The following paragraph outline the ablution design stages in the product synthesis include with the typical examples. A case study by Johari (2013) has found a relation between water, human gesture, and human behavior becomes the major and fundamental factor in designing the products. It has provided more similar approach toward the designing ablution tub based on ergonomic perspective. In order to build a relational theory for design, Jonathan (2009) reported that, they need a concept that will enable them to address the interactions between designers, artifacts, and users.

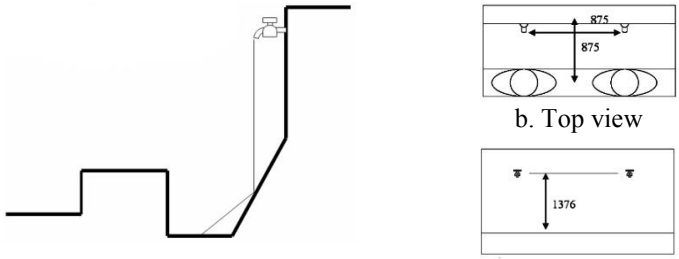
There are several possible models (see table 1) for the designs of an ablution unit identify by Mokhtar (2005). The simplest design model shows on Model 1. This kind of model includes with a shelf for users to put their belongings and happen to be as support of balancing their bodies by grip strictly on the bench. This low cost model was uncomfortable to perfume ablution because it requires users to sturdily bend their knees or back. Model 2 shows an ablution space that provides seats for users to perform ablution while seated. This design figure shows the most recommended design and dimensions to sit while perform ablution. The design also measures a concern about the level of seat, water drainage, including a shelf. In the other view, Model 3 became as model that includes with a lavatory. This model happens to be most users apply at homes to perform ablution. Based on this model, the main problem is, users need to bend to reach the faucet and require raising their feet as last of ablution process to the lavatory.

To solve these problems, the lavatory level was lowered and faucets level moved up. As a part of conventional ablution tub, Model 4 shows a recommended design and dimensions to stand while perform ablution. The faucet level is higher than usual to minimize the bend over while the user intended to stand opposite the barrier. The barrier was designed as low knee level to give a comfortable level for users to raise their feet and aligned with the faucet. A shelf also includes and provides a same practice as mention on model 1. The platform was design with anti slip tile.

Table 1. Conventional Ablution Design by Mokhtar (2005)

	Model 1	Model 2	Model 3	Model 4
Ablution Design				
Standard Features	Faucet / Platform / Top Shelf	Faucet / Platform / Top Shelf	Faucet / Platform / Top Shelf	Faucet / Platform / Top Shelf
Additional Features	Drain	Seat / Covered Drain	Lavatory / Pipe System Drain	Barrier / Drain

On the other point of view, Nashirudin (2008) describe on the determination of actual size of ablution design. It is actually a data, recorded as scale of the human body (users). All around the globe especially Muslim community initiate an ablution area, which the proposal has developed based on a human standard size as mentioned in the Architects' Data. The problems occur is about the squelch water between ablution area, and force wetness on the floor including user's cloths. To solve these problems, an angled wall as shown on fig. 3 (a) need to emphasize. Based on the findings, its clearly prove that design improvement needed in order to design an ergonomic ablution tub. Cross-section picture with falling water faucets to prevent splashing to user while perform Ablution (Nasharudin, 2008). The important factor need to re-design is the space distance between user and faucet including range between users while performing ablution. The right distance suggestion is defined on fig. 3 (b) & 3 (c), which give a suitable distance of measurement in accordance to perform ablution.



a. Falling water solution b. Top view c. Front view

Figure 4. Cross-section picture that shows a required distance between faucets

In order to conduct the Ablution Function Means Analysis, the functions should be at the same level of generality (Burge, 2006). He acknowledges the possibilities of common sense as good tool to identify as many realistic whole system concept solutions as possible. These principles should not be applied blindly but used with thought. Here, we use the reduce Function Means table to "trace out" potential whole system concept solution as shown in Table 2. In conjunction with Function Means Analysis, often called as *morphological analysis*, the example by Hubka et. al. (1988) and Muller (2001) has illustrates the approach. Morphological chart were originally developed as a design method, we construct the overviews of function considered and representation produce especially on the ablution perspectives. From here, it's allowed us to analyze the development of ablution design concept.

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Table 2. Function Means Analysis for Ablution

Function – Means Analysis Chart				
Function	Means			
Ablution Principle	Face 	Both hand 	Forehead 	Both Feet 
Body Posture While Perform Ablution	Stand 	Bend 	Sit 	Squat 
Faucet design	Lever-type 	Single-hole 	Center-set 	Wall-mount 
Water fall method	Flush (Pipe)	Dipping (Pond)	Scoop (Bailer)	Mixed Bailer & Dip (Pond)
Drain System	Open	Covered	Pipe	Trap & pipe

CONCEPT SOLUTION BASED ON PRODUCT SYNTHESIS MODEL - ESTABLISH THE CLASSES OF ABLUTION FUNCTION MEANS ANALYSIS

Principle-solution requires design-inspired approaches, and final design structure of ablution design endows the theory of formgiving design (Anwar *et al*., 2015). Shahriman (2008) has defined the notion of qualitative structure and quantitative structure throughout the methodology featuring formgiving. He clarifies visual elements form is part of the attributes of form that create tone and texture, imparting visual interest and meaning. Their importance becomes evident through their use in generating images and form(s) that are both two-dimensional (2D) and three-dimensional (3D). With in agreement about the understanding of use of basic entities of visual elements such as point, line, plane or surface, and volume, as well as the organization rules and principles for putting together the composition or structure (Akner Koler, 2000). This element then will become a guide on generating the ablution form.

Using the Function Means Analysis (Table 2), as the starting document, tracing out the potential system of concept solution, and for each of these, the relevant ablution function-carrier (morphological matrix) able to realize them at various levels of abstraction (Hubka et. al., 1988). This is the stage they called as a very creative phase. The brainstorming is to inverting the ablution problem; help to produce solution, and problem identification. Enabling us towards an overall optimum solution. Each ablution function-carrier is assessed for its compatibility with user's need, the combination of design parts are simplest to realize. The process for conducting an Ablution Function Means Analysis derived from design philosophy (Burge, 2006). He applied the Structure of Intellectual (SI) theory advanced by Guilford (1950) for design purpose which highlight two of six SI processes; Divergent Production, the ability to generate multiple solution to a problem (creativity); and Convergent Production, the ability to deduce a single solution to a problem (rule-following or problem-solving). The process for conducting Ablution Function Means Analysis (AFMA) illustrates on Figure 5. Here, we realize the Concept Solution based on Product Synthesis Model by Tjalve. As overall, the process can be divide into Divergent Process (Step 1 & Step 2) and Convergent Process (Step 3, Step 4, & Step 5).

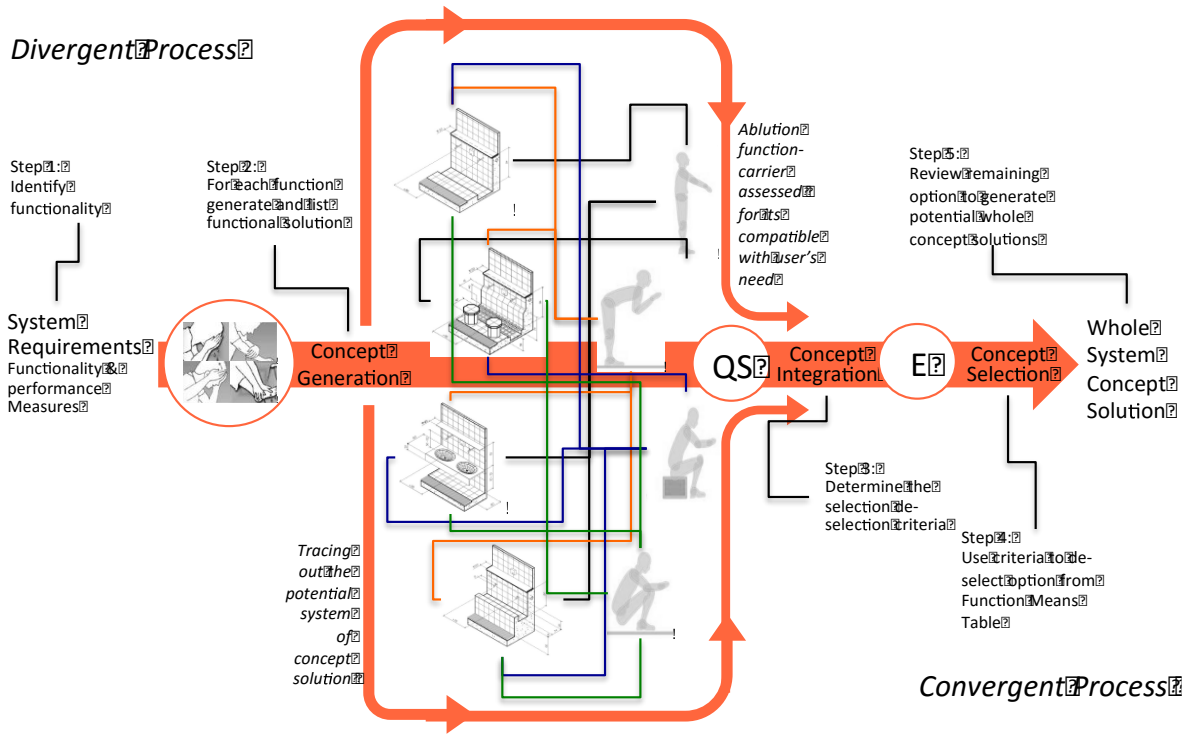

Figure 5. The design model and conducting process of Ablution Function Means Analysis (AFMA)

Divergent Process begin (Step 1) with concept of ablution problems analyze from the four principles practice or method, identify the functionality and the practicality of existing ablution design. The *main function* of ablution models components clearly constructed to meet the needs of ablution implementation. By *means*, we understand the potential functional solution, with which given all four-ablution principle compulsory to perform (Step 2). Becoming the most important sub-functions. The concept generation here achieved as solution by connecting the ablution process for each sub-structures that known as basic structure (Tjalve, 1979). This is the phase where the potential system of concept solution traced out. Here, the design activity is still on the stage of working drawing with no any decision made. However, Tjalve define, this is the most important parameters in creation of a product but still nothing is yet to decide. Based on AFMA, the quantified structure on the relative arrangement of ablution elements (four types body posture) optimized and specified with ablution design (four models). This stage required a large amount of quantified structure (QS) to assess ablution design, and its compatible with user's need.

Convergent process or phase begins by selecting key criteria that can promote the solution document in the AFMA (see Table 2). As recommended by Burge, three or six criteria are enough to avoid enthusiasm and concentration. Here, ablution design Concept Integration (Step 3) approach should select all four ablution principles, perform on two combination of four models mentioned with optional of two human posture. These selections decide based on the primary ablution requirement from Table 2. Before we can decide to move into Concept Selection phase, its required to evaluate (E) the selected criteria and organized in order of importance. This is the stage we can establish basic arrangement. The reason is to explore possible arrangements, and continual refinements until the ablution design seem satisfactory. Evaluation of the solution can embark into concept development as an embodiment of a complete feasible solution towards the design problem (Liem, 2004). This is the phase that Liem's characterized as 'possible versus feasible', "global versus detailed', and 'specific versus holistic'.

The option of ablution models by Mokhtar (2005), propose efficiency ablution water performance by Nashirudin, (2008) and practical purpose requirement as mention by Johari *et al*., (2012), (2013), (2014) has become the main issue on generating design solution. As the important elements and criteria determined, the next activity (Step 4) is the critical design situation as stated by Anwar *et al*. (2015) in which, the configuration of formgiving design in humane process (designers and users) can grasp not only a goal, but include thoughtful and enthusiastically, for the transcendent of ablution design. To describe this activity, the roles of Function Means Table of ablution need to be considered to reduce number of options, and it's depend on the designer to decide the consideration made. As nature, designer tend to use solution conjectures as the means of developing their understanding of the problem (Cross, 2006). After completing the clarification phase, the conceptual design phase will determine the principle-solution (Step 5) of ablution design where, the remaining option should be review to generate as much as potential solution. Here, the collaboration of Industrial Designer (ID) and Engineering Designer (ED) play an important role to ensure product appearance,

expression and impression still allow the technical function to be fulfilled within the forms and shapes created.

CONCLUSIONS

In this paper, we conclude that Function Means Analysis defined by Burge able to play as important parameter in introducing a new design segment for CSWD. Ablution analysis is extended to propose and provide and efficient model for concept solution. There are five steps with a division of Divergent Process and Convergent Process. In Divergent Process, two steps involve where the first steps is to analyze problems, identified the functionality and the practicality that meet product (ablution) needs. By *means*, potential functional solution understood, becoming the most important sub-functions and generation concept solution for the second steps. This stage required a large amount of quantified structure (QS) to assess design requirements. For Convergent Process, it does involve three steps to be as problem solution method where AFMA table used as guide. Concept integration (Step 3) selections decide based on the primary ablution requirement from AFMA and required to evaluate (E) the selected criteria and organized in order of importance. The 'option of models', the 'propose efficiency performance' and the 'practical requirement' that become as main issue on generating design solution. As the important elements and criteria determined, the critical design situation (Step 4) is to reduce number of options, and it's depend on the designer to use solution conjectures as the means of developing their understanding of the problem. The conceptual design phase will determine the principle-solution (Step 5), examining potential of remaining option able to generate as much as potential solution.

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Water fall method	Flush (Pipe)	Dipping (Pond)	Scoop (Bailer)	Mixed Bailer & Dip (Pond)
Drain System	Open	Covered	Pipe	Trap & pipe

The successful of AFMA was derived from Tjalve procedural model for product synthesis. The finding show the Function Means Analysis (Table 3) often called as *morphological analysis*, used to "trace out" potential whole system concept solution. Morphological chart were originally developed as a design method, overviews of function considered and representation produce especially on the product design perspectives. From here, it's allowed us to analyze the development procedure of ablution design method. For future work, collaboration development between ID & ED exploring qualitative structure and quantitative structure, throughout AFMA, in order to evolve the theory to and understand, how it might create an implicit and explicit underlying the designer's way of thinking.

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Gender Differentiation In Czech Primary Schools

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ABSTRACT
The article briefly explains the basic theoretical concept of the gender issue and explains the keywords of the subject. The aim is to highlight the fact that in the environment of Czech primary schools there are various approaches to male and female pupils according to their gender. This fact is illustrated by the results of the research study aimed at a key area of education and training, i.e. the quantity and quality of the interaction between a male/female teacher and a male/female pupil. The study is a part of an extensive research project, implemented by means of the following grant: Internal grant of PDF UP: From subjective implicit theories of education to teaching knowledge. The process of constitution of a cognitive framework sciences education in the national and international context.

INTRODUCTION
Education of any degree is an essential and fundamental part of the life of every human being and it has an unquestionable influence on the shaping of such being's personality. From early childhood, the personality of an individual goes through certain stages of institutionalized education. An individual attends a kindergarten, then a basic school. In the Western society, a majority of individuals continue their education in secondary schools, some of them in universities. The element that connects all levels of the educational system is the previously mentioned training and education. The Czech educational system has a great potential to equally provide its male and female pupils (male and female students) with information and education, but according to some male and female authors (cf. Pavlík, 2007; Smetáčková, 2006) it is evident that, although male and female pupils (male and female students) sit in the classroom together, they do not have an equal access to education, and that there is a degree of differentiation according to their gender. This presumption is especially associated with secondary and higher education; however, some signs of this fact can be observed even in basic schools and kindergartens.

INTRODUCTION – THEORETICAL BACKGROUND
In the Czech environment the term "gender" and its meaning is still perceived with a degree of inconsistency and there is no exact definition although the term has been included in the current vocabulary for many years. The word "gender" comes from the Greek language; from Greek it probably penetrated the English language from where it was taken over by the Czech language. In contemporary English "gender" originally meant "grammatical gender" (Maříková, 2000, p. 11), later also "voice". However, to translate this expression to Czech simply as "grammatical gender or voice" may be misleading; therefore, it is not translated or is translated as "social gender". The advantage of the Czech equivalent is that it emphasises the fact that gender also has an own social (not only biological) aspect. (Valdrová, 2006, p. 6) From the scientific language, where the term was re-discovered by John William Money, who enriched the term with a new meaning, the meaning of the term gender was adopted by common English, and later by Czech, and became an integral part of it. "Gender" is a psycho-cultural term, and signifies not biological but also social aspects. (Jandourek, 2007, p. 90) The term "gender" refers to cultural and social stereotypes and expectations associated with the members of the opposite sex (Fafejta, 2004, 30) and these cultural and social stereotypes and patterns of behaviour, which are abundant in our culture, are considered typically male or female in the society and by the society. (Jandourek, 2007, 90) As added by Maříková (2000, p. 11), the term gender refers to the social differences between the man and the woman, between men and women, or between masculine and feminine. Human sex (male and female) is given biologically, but in terms of social behaviour people are not born as men and women; instead, they must learn to live and act as men and women. We are not born as women and men, we become women and men. From a gender perspective, this involves such differences between men and women that are not biologically or genetically predetermined, or otherwise "by nature", but originate and are culturally, historically and socially determined. (Maříková, 2000, p. 11) In reality, these culturally, historically and socially determined stereotypes and patterns of behaviour then influence, shape or modify the qualities, abilities and personalities of specific men and women. Naturally, they also influence the

attitudes, opinions and behaviour of men and women and direct them towards the conventions for each gender, i.e. towards the "typically male" or "typically female". (Maříková, 2000)

Due to the fact that gender is a social construct of the society, the number of genders is socially determined, and therefore, theoretically there can be an infinite number of them. Valdrová (2006, p. 53) states that the Euro-American society has typically nine sexual variants (heterosexual man, heterosexual woman, homosexual man, homosexual woman, bisexual man, bisexual woman, transgender FtM (Female it Male, hetero- or homosexual), transgender MtF (Male it Female, hetero- or homosexual) or intersexual man/woman). However, gender constructs, expectations and prejudices have never been, are not and will never be something universal as they change according to the place and time of origination and the society in which they are applied.

The word or term "differentiation" was taken from the Latin "differ" ("dis" and "fero" = to carry, which together means "to distribute, to distinguish". (Vokurka et al., 1995, p. 82) Hartl and Hartlová (2000, p. 113) allude to the differentiation in the teaching process, which they define as different work with male/female pupils of the same age by means of parallel classes, optional subjects, different study programmes or the use of group work within one class. In the context of gender, the term "differentiation" could be explained as differentiating, distinguishing, dividing or classifying male and female pupils (male and female students) and different ways of working with them, not only on the basis of various types of optional subjects and study programmes, but also on the basis of social and biological gender, i.e. their sex. In practice, this means that we expect different things from female pupils (female students) than from male pupils (male students), teach them different things and communicate with them in different ways. Accordingly, we expect different things from boys and teach them different things than girls. In other words, this expectation can be expressed as a "prejudice", "presage", "stereotype" of the fact that this is the way it should be.

GENDER DIFFERENTIATION IN CZECH PRIMARY SCHOOLS

Although the principle of equal opportunities for girls and boys in education is one of the priorities of the Government of the Czech Republic and thus has formal support, in everyday practical life the situation is very disputable. It is assumed that gender equality in education in the Czech Republic is assured by means of co-education, i.e. that girls and boys attend or have an opportunity to attend the same schools and sit in the same classrooms, in the same desks, and hence they should get the same education. In the Czech Republic, co-education exists only in basic schools, and not always. Once children go to specialized secondary schools, gender segregation (differentiation) takes place. This happens despite the fact that there are no schools that would allow only one gender. Secondary education is very segregated (differentiated) as there are so-called boys' and girls' fields of study that correspond to the segregation of professions on the labour market. However, gender equality is not guaranteed even if girls and boys are in the same class and sit in the same desks. Female and male teachers often conduct with stereotypes and through their uneven demands and discriminatory statements might and often do deepen gender inequalities. Often we might encounter underestimating the intellectual abilities of girls, from whom teachers (both male and female) expect and require neat exercise books and impeccable behavior rather than real knowledge. Many male and female teachers show this discriminatory behavior towards their female and male pupils not with malice but as a result of insufficient knowledge. Some male teachers and some female teachers do not even acknowledge that they behave in a discriminatory manner, and believe that they treat girls and boys in the same way, that they have the same expectations from them and that they pay the same attention to them.

The gender issue is new to the society and Czech education; and currently, faculties of education do not offer courses, in which female and male teachers could learn to behave correctly in terms of gender, to conduct classes in a gender-sensitive way and to avoid pushing boys or girls into stereotype roles. In any case it is important to succeed in fulfilling the principles of gender equality, to fight for them and to provide children with education that will not bind them with stereotype solutions, but offer them a real free choice of their future profession and satisfactory arrangement of their future family life. If we look at schools as social, educational and training institutions – we will find out that gender inequality enters schools in various and often hidden and invisible ways. We will focus on one of these areas, which we believe to be most important, i.e. quantity and quality of communication between the teachers and male/female pupils, because teachers generate pupils' activity through their own activities (Plischke, 2008).

QUANTITY AND QUALITY OF COMMUNICATION BETWEEN TEACHERS AND MALE/FEMALE PUPILS

One of the contexts, in which the gender-based incorrectness of the school institution can be observed, is the quality of communication and quantity of interactions between male and female teachers and male and female pupils. Male and female teachers interact and communicate with their pupils in different ways. This difference in based on the pupils' sex and on associated and generally known gender stereotypes. Communication between male/female teachers and male/female pupils is based on verbal communication, sociability and nonverbal communication (Andrysová, Martincová, Včelařová, 2014). Male and female teachers themselves believe that the quantity of interactions and the quality of communication with their male and female pupils is all right, that they

approach them fairly, equally, and that one gender is not favored over the other, but in this way they become the victims of their own gender stereotype thinking, which they had been inculcated from childhood in the family and also in school, where this should not occur at all.
We decided to verify this fact by means of a research survey focused on the assessment of the quantity and quality of interaction between a male/female teacher and a male/female pupil in a mainstream class in primary school.

OBJECTIVE AND HYPOTHESES OF THE RESEARCH STUDY

The main objective of the research study was to find out whether there are any differences in primary schools concerning the approach of teachers (irrespective of their gender as no male teacher was included in the research sample) to boys and girls with regard to the frequency and length of interaction and also the quality (addressing) of this interaction.
The main objective of the research was achieved by means of partial goals represented by the following research questions:

1. Is there a statistically significant difference in the frequency of calling upon boys/girls by the teacher?
2. Is there a statistically significant difference in the length of the boy/girl-teacher interaction?
3. Is there a statistically significant difference in the form of addressing boys/girls by the teacher?

These research questions were used to formulate the following hypotheses:

H1.1: There is no statistically significant difference in the number of boys and girls called upon by the teacher.
H1.2: There is no statistically significant difference in the number of boys and girls called upon by the teacher in the Czech language.
H1.3: There is no statistically significant difference in the number of boys and girls called upon by the teacher in mathematics.

H2.1: There is no statistically significant difference in the length of the boy/girl-teacher interaction.
H2.2: There is no statistically significant difference in the length of the boy/girl-teacher interaction in the Czech language.
H2.3: There is no statistically significant difference in the length of the boy/girl-teacher interaction in mathematics.

H3.1: There is no statistically significant difference in the form of addressing boys and girls by the teacher by means of the original form of their first name.
H3.2: There is no statistically significant difference in the form of addressing boys and girls by the teacher by means of a diminutive form of their first name.
H3.3: There is no statistically significant difference in the form of addressing boys and girls by the teacher by means of a meliorative term.
H3.4: There is no statistically significant difference in the form of addressing boys and girls by the teacher by means of a pejorative term.

RESEARCH METHODS AND TECHNIQUES

To achieve the objective of the research we used an analysis of an audio recording. By means of statistical data processing in the Excel programme we subsequently calculated the frequency and length of the monitored categories, which were then divided according to whether the teacher's statement was intended for boys or girls. These data were then converted to average values per one boy and one girl; in case of interaction quality we used absolute values of the occurrence of a given category with respect to boys and girls (the contents of the statements was not analysed).

RESEARCH SAMPLE

The research was carried out in 148 lessons, in 74 classes of primary schools in the whole Czech Republic. The classes were chosen deliberately due to the fact that the research material was collected by the students of teaching for primary schools as a part of their continuous teaching practice. In each class, i.e. for each teacher, audio records were taken in two lessons (mathematics and Czech language), which form the basis of education in primary schools. The research involved a total of 74 teachers and 1857 male and female pupils, of which 896 were boys and 961 were girls. Regarding the uneven number of boys and girls the obtained data were recalculated to one boy and one girl.

STATISTICAL EVALUATION METHODS

The obtained data were further processed using statistical methods. The hypotheses were statistically verified in order to determine whether there is a statistically significant association between the selected variables and to exclude any coincidences. The data were tested using the chi-squared goodness of fit test. The testing was

performed at a level of significance of 0.05, which implies that the risk of a wrong confirmation or rejection of the null hypothesis was 5%.

RESULTS OF THE RESEARCH STUDY AND DISCUSSION

To achieve the main objective of the research we verified 3 research questions represented by the hypotheses.

Research question No. 1: Is there a statistically significant difference in the frequency of calling upon boys/girls by the teacher?

H1.1: There is no statistically significant difference in the number of boys and girls called upon by the teacher – a boy was called upon on average 23 times per lesson, a girl 11 times per lesson, the calculated value of $\chi^2 = 4.24$ is greater than the critical value of $\chi^2_{0.05}(1) = 3.84$, and therefore it is possible to reject the null hypothesis.

H1.2: There is no statistically significant difference in the number of boys and girls called upon by the teacher in the Czech language – a boy was called upon on average 9 times per lesson, a girl 7 times per lesson, the calculated value of $\chi^2 = 0.25$ is lower than the critical value of $\chi^2_{0.05}(1) = 3.84$, and therefore it is possible to confirm the null hypothesis.

H1.3: There is no statistically significant difference in the number of boys and girls called upon by the teacher in mathematics – a boy was called upon on average 14 times per lesson, a girl 4 times per lesson, the calculated value of $\chi^2 = 5.56$ is greater than the critical value of $\chi^2_{0.05}(1) = 3.84$, and therefore it is possible to reject the null hypothesis.

Research question No. 2: Is there a statistically significant difference in the length of the boy/girl-teacher interaction?

H2.1: There is no statistically significant difference in the length of the boy/girl-teacher interaction – the boy-teacher interaction lasted on average 76 seconds, the girl-teacher interaction lasted on average 52 seconds, the calculated value of $\chi^2 = 4.50$ is greater than the critical value of $\chi^2_{0.05}(1) = 3.84$, and therefore it is possible to reject the null hypothesis.

H2.2: There is no statistically significant difference in the length of the boy/girl-teacher interaction in the Czech language – the boy-teacher interaction lasted on average 74 seconds, the girl-teacher interaction lasted on average 63 seconds, the calculated value of $\chi^2 = 0.89$ is lower than the critical value of $\chi^2_{0.05}(1) = 3.84$, and therefore it is possible to confirm the null hypothesis.

H2.3: There is no statistically significant difference in the length of the boy/girl-teacher interaction in mathematics – the boy-teacher interaction lasted on average 83 seconds, the girl-teacher interaction lasted on average 41 seconds, the calculated value of $\chi^2 = 14.26$ is greater than the critical value of $\chi^2_{0.05}(1) = 3.84$, and therefore it is possible to reject the null hypothesis.

Discussion

The survey suggests that the teacher in the class more often interacts with boys than girls, girls are less often called upon than boys; the teacher responds to boys' questions in a different way compared with girls' questions and deliberately leaves boys more time to answer questions or deliberately gives them clues, while girls tend to be interrupted in their responses more frequently. The reason might be that girls are believed to memorize knowledge by heart and that they either know or do not know the answer, while boys are expected to make up solutions at the time of asking; therefore, they are left more time to think.

A significant difference was observed in mathematics, which is generally acknowledged as one of the so-called masculine subjects. It is assumed that girls are not interested in these types of subjects, which might be the reason why in these subjects they are not provided with attention that they deserve. According to Valdrová (2006, p. 32), this imbalance may be caused by another factor, i.e. that girls are usually well-behaved and therefore, male/female teachers pay more attention to and are more demanding on boys in order to keep them busy so that they do not have time for misbehaviour. As a result, girls get used to being overlooked and wait for their turn.

Research question No. 3: Is there a statistically significant difference in the form of addressing boys/girls by the teacher?

H3.1: There is no statistically significant difference in the form of addressing boys and girls by the teacher by means of the original form of their first name – a boy was addressed on average 1195 times by means of the original form of the first name, a girl 87 times, the calculated value of $\chi^2 = 957.62$ is greater than the critical value of $\chi^2_{0.05}(1) = 3.84$, and therefore it is possible to reject the null hypothesis.

H3.2: There is no statistically significant difference in the form of addressing boys and girls by the teacher by means of a diminutive form of their first name – a boy was addressed on average 312 times by means of a diminutive form of the first name, a girl 1488 times, the calculated value of $\chi^2 = 768.32$ is greater than the critical value of $\chi^2_{0.05}(1) = 3.84$, and therefore it is possible to reject the null hypothesis.

H3.3: There is no statistically significant difference in the form of addressing boys and girls by the teacher by means of a meliorative term – a boy was addressed on average 5 times by means of a meliorative term, a girl 55 times, the calculated value of $\chi^2 = 41.67$ is greater than the critical value of $\chi^2_{0.05}(1) = 3.84$, and therefore it is possible to reject the null hypothesis.
H3.4: There is no statistically significant difference in the form of addressing boys and girls by the teacher by means of a pejorative term – a boy was addressed on average 367 times by means of a pejorative term, a girl 43 times, the calculated value of $\chi^2 = 256.04$ is greater than the critical value of $\chi^2_{0.05}(1) = 3.84$, and therefore it is possible to reject the null hypothesis.

Discussion

The quality of communication between teachers and male/female pupils is as important as its quantity. The survey clearly shows that teachers tend to speak with boys and girls differently. They use more diminutive forms of the first name (Janička, Evička) and meliorative forms (darling, sweetheart) when they interact with girls and, on the contrary, pejorative forms (rascal, rogue) for boys. In this way of addressing, both girls and boys acquire certain predetermined stickers indicating the way they are perceived by their surroundings and suggesting their gender roles. In this way, teachers, again maybe unconsciously, promote gender differentiation and strengthen gender stereotypes in girls and boys based on long-term historical development.
Apart from this perspective, gender incorrectness and discrimination in the quality of interaction in the Czech school environment is also affected by the significant overuse of the so-called "generic masculine". The so-called "generic masculine" is a masculine form of the name of a group of person/persons meant to signify both men and women. Although the so-called "generic masculine" is not characteristic for primary schools and male/female teachers do not use it on an everyday basis, it can be encountered in various documents (school rules, school reports, school educational programme, etc.) that significantly influence education and training in primary school and shape each female and male pupil.

CONCLUSION

In the text above, we asked a question whether in Czech primary education there is any gender differentiation between male and female pupils and whether there are different approaches to male and female pupils on the basis of their gender. According to our survey it might be concluded that the existence of gender differentiation in education is not a matter of coincidence and that the phenomenon of gender affects teaching at least in the context of prejudices.
The issue of correctness or incorrectness of the existence of gender prejudices, or more precisely stereotypes, is a complex one. On the one hand, gender stereotypes have a positive role in routine problem solving, speed up the assessment of the situation and facilitate decision-making. On the other hand, they can reduce the abilities and skills of an individual on the basis of belonging to a specific gender. For this reason, we consider the existence of gender stereotypes incorrect; therefore, gender differentiation should be eliminated at the very beginning of the educational-training process, i.e. in primary school.

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Higher Professional Education Funding Systems In Selected European Countries And In The Czech Republic

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ABSTRACT
This paper provides a framework for understanding the structure of funding systems for professional higher institutions in selected countries in Europe – in Belgium (Flanders), the Netherlands, Austria and England, compared to the system in the Czech Republic. It also delivers an analytical research of their structure, funding sources, student tuition fees and student support systems. The analysed countries already implemented formula funding models for education but offer quite different approaches. Three of the monitored countries address the need for greater funding increase by direct participation of students (and their families) to cover the costs of education. That investigation is followed by a comparative analysis of the higher education systems of all selected countries as a whole by mathematical method of the multi-criteria evaluation of alternatives, which gives an overall picture about comparison of different approaches of higher professional education.

INTRODUCTION

Higher education, number of students and institutions, funding of institutions and students or public and private spending on education – these are the topics that are discussed at present not only in the Czech Republic. Today's economic circumstances and global financial crisis have had the negative impact on the public expenditures including public spending on education. Higher education institutions across Europe face today a threat of critical underfunding, which could result into decrease of quality in teaching and research activities. The dependence on the public sources seems to be a problem and so the discussion about the private sources and tuition fees is more important than before. European higher education institutions (HEIs) can be academically or professionally oriented and usually are separated according to the main funding sources as public and private ones. Academic higher education is traditionally offered by universities whereas professional higher education is offered by non-university institutions - universities of applied sciences, university colleges, polytechnics, institutes of technology, Fachhochschulen, hogescholen. Terminology in higher professional education is based on national concepts and is generally a product of historical tradition and background. The problem is that there is no clear and internationally shared definition for the two types of higher education (Camilleri et al., 2013). Professional higher education is a specific form of higher education that offers a particularly intense integration with the world of work in all its aspects (including teaching, learning, research and governance). Its' function is to focus especially on application of learning. This means the combination of study and work processes and the cooperation with employers about the use of practice-relevant knowledge (Camilleri et al., 2013). In some European countries the distinction of the academic/professional higher education was influenced by the Bologna process that started the reform of higher education in the sense of the separation of the system into two cycles, undergraduate (usually three year study bachelor degree) and graduate (Bologna declaration, 1999). According to this changes more non-university institutions practically oriented started to grow. As Kyvik (2004) mentioned, "the main purpose of the non-university institutions was to offer a wide spectrum of vocational education, either to qualify for a specific occupation or to prepare for a profession." Following these assumptions we can suppose that the professional higher education is connected with non-university sector. But the problem is that the boundaries between universities and non-university institutions started to blur (Witte et al., 2008).

Education expenditure is financed by two distinct types of funding: public funding and private funding. Public expenditure includes all direct funding of education by the public sector, whereas private expenditure includes the payment of tuition fees and all other payments primarily by households (i.e. students and their families), businesses and non-profit associations. Blankenau et al. (2007) found a positive relationship between public education expenditures and long-term growth but the relationship is also influenced by the level of government spending, the tax structure and the parameters of production technologies. As it is not easy to control all these parameters the idea of private funding seems to be logical step.

The main aim of this paper is to analyse funding sources of higher professional institutions in four selected European countries and compare their approaches with the situation in the Czech Republic. The analysed countries are Belgium (Flanders), the Netherlands, Austria and United Kingdom (especially England).

MATERIALS AND METHODS

Higher education in Europe is predominantly financed from public sources. The financial crisis of 2007-2008 and the consequent economic downturn have had a huge impact on public finances in all European Union countries over the last seven years. The need for the government to limit the increasing higher education expenditures is guided by the intention that public resources should be allocated in a transparent way while at the same time offering specific performance incentives (OECD 2010). When we compare the public spending of education as the % of GDP of the selected countries we see, that in some countries (Belgium, Netherlands) the crisis had more positive than negative effect [Figure 1] but the public spending on education as the percentage of government expenditures tends to oscillate around the same limits except of the Czech Republic where the percentage is lower but the trend is rising to be closer to other countries.

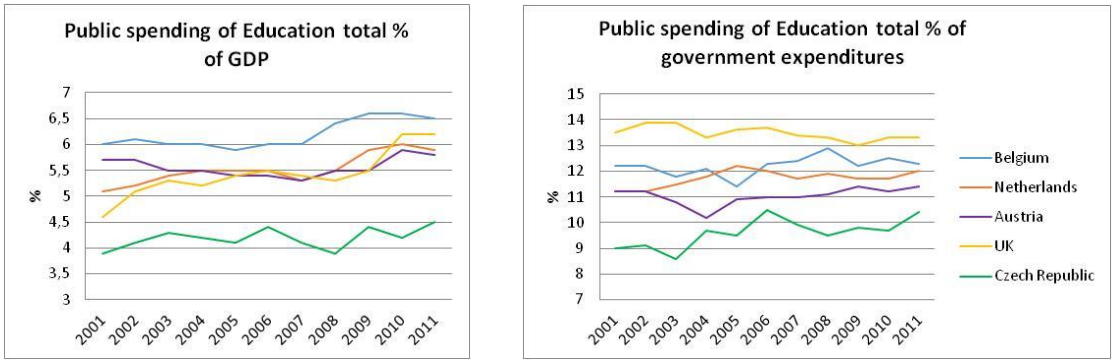

Figure 1 – Public spending on education as the percentage of GDP or government expenditures (Source: http://data.worldbank.org/indicator)

Private expenditure on higher education includes the payment of tuition fees and all other payments primarily by households (i.e. students and their families), businesses and non-profit associations. This paper will deal only with fees and other payments by students. Because of the fees should not be considered in isolation this paper is considering grants, scholarships, loans, tax allowances and exemptions and other social benefits. The private expenditures as the percentage of GDP have been (in the year 2010) only 0.3% (Belgium) or max. 2% in UK (Reis, Gheorghiu 2011).

We start our research by analysis of four European countries and the Czech Republic. The main aim is to analyse funding sources of higher professional institutions practiced in Flemish part of Belgium, in the Netherlands, Austria and in the United Kingdom (resp. England). Because in the UK there are significant differences in management of higher education in England, Scotland, Wales and Northern Ireland, the analysis focuses only on England. The selected sample includes European countries with a long tradition of higher professional education. Analysing and determining factors of higher education funding systems will primarily focus on formula based funding models for education at public higher professional institutions. We use qualitative and quantitative data including literature findings and statistical data as well as information gained from interviews with representatives of professional higher education institutions in each country studied. Indicators were then transformed and adjusted using basic mathematical operations into to the desired form of tables. British pounds are converted at the exchange rate in force on December 15, 2014. For the calculations we use the average net income and maximum fees for countries where the amount is limited.

Funding system in Belgium (Flanders)

Belgium is a federal state, composed of three Communities (Flemish, French and German-speaking) and three Regions (Flanders, Walloon and Brussels). The responsibility for education is on the Communities. Higher education in Flanders is offered at university colleges and universities. Universities organise the academic programmes, non-university institutions of higher education called „hogescholen“(university colleges) organise the professional bachelor's programmes. Study programmes at hogescholen are divided into one-cycle and two-cycle programmes. One-cycle higher education covers a study period of three years (60 credit points each). Since January 2008, a new model of funding in higher education in Flanders is operational. All public funds to higher education institutions are allocated in the form of a "lump sum" on basis of funding formula. The awarded lump sums are allocated on basis of a series of criteria and factors that compose the financing mechanism. The specific components of the funding formula are:

- a fixed amount of funding, about 8-to-15%, depending on the size and profile of the institutions, taking into account economies of scale;
- a variable amount for teaching, depending on the output of teaching activity

Factors are:

- the number of credit points (ECTS) which the newly enrolled students take up;
- the number of credits (ECTS) awarded;
- diploma's: the number of bachelor and master degrees awarded which are converted to a number of credits (one degree is equivalent of 30 credits).

There are weights applied to the study points and the credits related to the type of curriculum. (Architecture - 1,4, health care - 1,6, commercial sciences and business administration - 1,1, industrial sciences and technology - 1,6, audio-visual and fine arts, musicology and dramatic art – 1,0, biotechnology - 1,4, product development – 1,6, social sciences – 1,1 and applied language studies – 1,2). The range of weights and all credits awarded in a study program will be multiplied to calculate the financial block grant for the institution (Decreet, 2008).

The student fee has two components: a fixed amount (EUR 61.90 paid at the beginning of an academic year) and a flexible part that differs according to the number of ECTS credits followed (at least 54 and maximum 66 credits for one year). Each credit point carries a fee of EUR 9.30. The amount of fees varies with the income of the student and the type of study. For a full-time student with 60 ECTS points the total fee is EUR 619.90. If a student is eligible for a grant, (s)he pays only EUR 0.70 per ECTS point. This means the maximum total fee for a full time student with a grant is EUR 103.90. There is a system of grants from the public purse to support students coming from lower socio-economic backgrounds. Also tax benefits and family allowances are provided. (EC, 2014, p.11).

Funding system in Netherlands

The system of higher education in the Netherlands is built upon two pillars: professional higher education (hogescholen) and academic higher education (universities). The Dutch higher professional education system maintains a unique position in Europe as more than 65% of all students in higher education study at a "university of professional education". The overall budget for higher professional education is allocated to the individual institutions on the basis of a set formula. Since 1994, hogescholen have received a block grant, which is adjusted to reflect wage and price developments. In addition, the budget is reviewed each year on the basis of the latest data with regard to student enrolment. Publicly funded hogescholen receive almost 75% of their total educational budget from the public sources. In addition to government contributions, the hogescholen also generate income from student tuition and services to third parties (average about 5%). Tuition fees play a significant role in funding higher education institutions, 18% of the budget of universities of applied science consists of tuition fees (Eurypedia 2014). Tuition fees are maximized by the Act on Higher Education (WHW). The study grant and loan system covers the students' costs for the tuition fee. There are three types of fee: the statutory fee and the prolonged study surcharge, which are fixed by law, and the non-statutory fee which is set by the institution, the statutory tuition fees, which are charged for a full-time courses in the academic year 2014/15 amount EUR 1 906. Students in part-time programmes, or programmes combining study and work (dual courses) pay between EUR 1 099 and EUR 1 906 upon the decision of the HEI. Student finance comes as a mixed funding: it is partly a non-repayable grant, partly a loan and for some students, depending on parental income, partly a supplementary grant. In addition to the study allowance, student finance also encompasses a public transport pass. The students are also entitled to loans or grants (the number of students entitled to and receiving grants or loans is 69%). There are no tax benefits for parents and no family allowances (Eurydice, 2014).

Funding system in Austria

Higher education in Austria is provided by 22 public universities (the biggest sector), 21 universities of applied sciences (Fachhochschulen, FH, introduced in 1994), 13 private universities (introduced in 2000), and 17 university colleges of teacher education (Pädagogische Hochschulen, introduced in 2007). (Eurydice, 2014). Fachhochschulen are institutions under private law. For the whole sector, a development and funding plan is decided upon between the Austrian federation, states and the Fachhochschul Council. The negotiations are based on calculated student places. The public funding is limited to 90% of the full cost; the remaining part is to be covered by local authorities and business sponsors. This system of mixed funding is based on the standard cost system. The Federal Government bears the costs per study place, provided that the catalogue of established criteria is complied with. The Austrian Science Council (Österreichischer Wissenschaftsrat) (2012) lists four groups of courses and unit costs per student place:

- For students admitted in courses with an engineering content of at least 50%: EUR 7,940
- For students admitted in courses with an engineering content of at least 25%: EUR 6,990
- For students admitted in courses with a focus on tourism: EUR 6.580
- For students admitted in all other courses: EUR 6,510

Costs for buildings, investments and a part of the running costs are borne by the provider of the Universities of Applied Sciences degree programme. The professional higher education sector is also predominantly government-funded - this part varies between 60 and 70 % of the total expenditure, regional sources vary between 22 and 36

% of the total expenditure. There are no tuition fees for students but providers of the Fachhochschulen are entitled to charge fees up to the maximum amount of EUR 363.36 per semester (it must be paid if students exceed the minimum study duration for more than a year). The federal student grants are divided into two sections: direct study financing received in cash, and indirect study financing which the student may receive by a transfer payment to the students' parents, or through non-cash benefits. There are no student loans in Austria.

Funding system in UK and England

Within the higher education sector in England, individual institutions are very diverse, varying in size, history, mission and subject mix. Some HEIs, particularly those established as universities prior to the passing of the 1992 Act, are more research-intensive and typically focus their teaching on traditional academic courses at bachelor's degree level and above. Post-1992 universities (new universities) often former polytechnics or teacher training colleges, may be less research-intensive, typically offer a wider range of vocational courses, some of which may be short-cycle programmes below bachelor's degree level. The majority of public funding is provided by central government through the Higher Education Funding Council for England (HEFCE). The total public funding for higher education in England is decided annually by the Government. The sources are:

- tuition fee loans and maintenance grants and loans to students;
- grants to universities and colleges from HEFCE;
- grants to institutions and bursaries to students from other public bodies.

Under the new arrangements, introduced in September 2012, more public funding is provided directly to students (in the form of up-front tuition fee loans, repayable when the student begins earning above a stipulated income threshold), and less funding is provided to institutions through HEFCE teaching grants (HEFCE, 2014). HEFCE use formulae to divide the majority of the money between institutions. These formulae take into account certain factors for each institution, including the number and type of students or the subjects taught. Subject-based funding for 2014-15 students is allocated using the following formula:

- sector-wide funding rates by price group and level (A-medicine, dentistry, veterinary; B-laboratory-based science, engineering, technology; C1-archaeology, arts, IT; C2-geography, languages, computing; D-humanities, business or social sciences)

multiplied by

- Full-time student equivalent for the year reported by institutions

multiplied by

- a scaling factor - for 2014-15, this scaling factor has initially been set at 1.

HEIs receive an increasingly significant income from tuition fees. Students now paying £9,000 per year (compared with £3,000 prior to 2012). The increase in tuition fees in England was very perceptible. Students are not required to pay up front and can apply for a loan to cover the full fee. Tuition fee loans are paid directly to the institution. Interest rates are indexed to inflation rates and borrowers repay, in real terms, broadly the same amount as that borrowed. Tuition fees will be payable after a student has completed his or her course. Students will not be expected to contribute towards repaying their graduate contribution until they are earning over £21,000. There are also possibilities to support first cycle full-time students – like grant or loans for living costs. Tax benefits for parents and family allowances do not play a role in the student support system. (EC. 2014, p. 38)

Funding system in the Czech Republic

In the Czech Republic there is the same system for financing public professional higher education (non-universities) and public academic higher education (universities) and also the criteria for evaluation of institutions are common for both segments. But the portfolio of the criteria is quite wide, which creates space for some specialization of each organisation.

Until 2009 the formula of contribution allocation was depended only on quantity of students. As a result of financial and demographical situation, it has been decided to introduce a new mechanism of performance based funding encompassing the whole range of activities HEIs could perform. Three measures have been taken. First, the Performance Based Funding was introduced only in certain parts of the budget allocated to Public HEIs and its proportion has been gradually increasing. Second, further expansion of the sector has been capped by limiting the number of new students that would be funded by the state. And third, both measures were linked together – for each HEI the number of students funded by the state would depend on performance indicators attained. It is thus clear that the choice of performance indicators is very sensitive as it would significantly affect the behavior of HEIs and their further development. (Koucky, 2012)

The Performance Based Funding (PBF) is being implemented step by step. When PBF was introduced preparing the 2009 budget, it was limited to 9 % of the overall HEI budget. Since 2009, the gradual implementation of PBF has continued and the proportion of PBF has been increased more than twice, to 24 % of overall budget of HEIs

in 2015. Also the composition of indicators has become more sophisticated. The Performance Based Funding for 2015 is based on following indicators and their weights:

- Performance in research activities (system of so called RIV points based on number of journal articles, publications, patents, applied research) – 34.3 %
- Performance in artistic activities (system of so called RUV points based on register and classification of artistic performance indicators) – 3.5 %
- Funds for research gained by the HEI through competition for grants – 4 %
- Income generated by the HEIs – 4 %
- The professional quality of teachers (measured by the staff structure) – 2.6 %
- Employability of graduates (unemployed in the period of 6 months to one year after graduation) – 16 %
- Number of foreign students – 2.6 %
- Self-funded students – 4 %
- Students mobility outgoing – 14.5 %
- Students mobility incoming – 14.5 % (MSMT, 2015)

Study fees are related only to admission procedures and need to be paid once per cycle. No tuition fees are paid by 'typical' higher education students, provided that they complete their study programme in the regular timeframe. Students who exceed a regular length of study by more than one year have to pay fees. Exemptions are made for students who become parents during their studies. The fee amounts to at least CZK 8,457/academic year, based on the average cost of a student for the public budget. No maximum is set by law. Students who study in second or further degree programmes have to pay fees (maximum CZK 2,819/academic year). Students of study programmes in a foreign language also have to pay tuition fees and no maximum limit is set by law. Such arrangements are decided by each higher education institution. Fees for international students are the same as for home students. (EC, 2014)

Methods for comparison

It is not easy to compare the funding systems of the countries because of the different conditions and different situation inside each country. As this is the first step in our comparison we have decided to use the multi-criteria evaluation of alternative (MCEA). MCEA belongs to the category of discrete multi-criteria decision making (MCDM) methods where all the alternatives (a_1, a_2, ..., a_p) and criteria (f_1, f_2, ..., f_k) are known. In this sense we take each country as an alternative. The process of the criteria selection was more complicated as it is hard to compare qualitative criteria. That is why we have only summarized the facts into the table - see [Table 1]. To add also a quantitative comparison we decided to start this analysis only with the quantitative data connected with higher education expenditures- see [Table 2]. To solve this kind of model it is necessary to describe the preferences of the decision maker – by aspiration levels, criteria order or by weights. As we suppose the same weight of all criteria we use two methods from the last category - WSA and ELECTREE III (for detail description see for example Figueira et al. 2005).

WSA (Weighted Sum Approach) sorts the alternatives based on the values of their utility functions (created from the data) which in this case are assumed to be linear. In the first step it changes the real data into the scale 0-1 (the best value of each criterion starts to be 1, the worst is changed into 0). Afterwards all the values are multiplied by the weight of the criterion to obtain the utility of each alternative according to each criterion. The total utility of each alternative is calculated as the sum of the utilities in all criteria for the given alternative. Higher value of the total utility means better alternative.

ELECTRE III. method uses the pairwise comparison of the alternatives and summarizes the weights of the criteria where the alternative is better than the other. According to the strength of the preference the final indifference classes are made and used for the alternatives order creation. It is necessary that all the alternatives are nondominated (so there is no alternative that is better in at least one criterion and no worse in any other).

RESULTS AND DISCUSSION

Funding is more than merely an instrument to allocate financial resources to higher education institutions and students. Among the countries analysed there are considerable differences. Table 1 summarizes the comparison of funding mechanism and criteria used in all analysed countries. In all countries HEIs generally receive block grants (lump sum funding), which means they have a defined autonomy to decide on the spending of their public resources. The basic funding mechanism in all countries is formula funding but governments use different approaches to implement formula mechanism in order to fund teaching.

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	Belgium (Fl.)	The Netherlands	Austria	England	Czech Republic
Criteria used in teaching formula	New entrants; Credit awarded; Diplomas	New entrants; Diplomas	Number of students	Agreed number of students	Agreed number of students
Criteria allocation	1.6 Health care, product development 1.4 Architecture, engin., technol. 1.2 applied language studies 1.1 Sociology, business studies 1.0 Audio-visual and fine arts, music, dramatic	Groups of disciplines with different factor: Low cost - 1 (arts, humanities, law, social sciences, languages) High cost 1,5 (science, engineering, agriculture)	Four groups of study fields: Engineering more than 50% € 7.940 Engineering at least 25% € 6,990 Tourism € 6.580 All other € 6.510	Five price groups of subjects: A £ 10,000 B £ 1,500 C1 £250 C2 0 D 0	1.0 Economical, political, law social 1.2 Pedagogical, philosophy 1.65 Architecture, engin., technol. 2.25 Health care, agriculture 2.8 Medicine, chemistry, biology 3.5 Veterinary 5.9 Art
Tuition fees per academic year	Yes € 619.90	Yes € 1 906	Provider can charge € 363 per semester	Yes Max. £ 9000	No tuition fees, only admission (600 CZK)
Admission system	Open but some regulations	Open but some regulations	Calculated student places	Harmonised admission procedure	Calculated student places

Table 1: Criteria of funding formula models in selected countries. Source: EC 2014

The final comparison of the systems is based on 6 selected criteria. All data are taken from the years 2010 or 2011 (as newer data are not available for all these countries and criteria) according to the World Bank (2014) and Eurostat (2014). Only the last criterion has been created by ourselves on the basis of the tuition fees per academic year (taken from the Table 1) divided by the annual net earnings in EUR in each country and correspond to the year 2014. We have to decide the type of each criterion (max., min.). According to our expectances that the "ideal" system gives high amount of money to education and it is not expensive for students we suppose all criteria to be maximised except of the last one. The criteria are:

- C1: public expenditures on education spending as % of GDP
- C2: private expenditure on education spending (% of GDP)
- C3: public expenditure per pupil as % of GDP per capita
- C4: percentage of inhabitants studied at HEIs
- C5: Expenditure on public and private educational institutions per pupil/student (PPS for full-time equivalents)
- C6: Share of tuition fees on annual net earnings (2014)

The results are presented in Table 2. Although Belgium has max. % of GDP public expenditures on education, UK has max. % of GDP private expenditures, Austria has max.expenditures on institutions per student and the Czech Republic has min. share of tuition fees on annual net earnings, the winner in both methods is the Netherlands. It has max. public expenditures per pupil as % of GDP per capita and max. percentage of inhabitants studied at HEIs. The final utility and order of the Czech Republic is worse of all countries but we have expected this position because of the low public expenditures on education and low expenditures on educational institutions per student. On the other hand the percentage of inhabitants studied at HEIs and private expenditures on education as % of GDP are comparable with other countries. So the question of the installation of the tuition fee at the Czech public HEIs starts to be important again.

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	Criteria						ELECTRE III	WSA	
Country	**C1**	**C2**	**C3**	**C4**	**C5**	**C6**	**Order**	**Order**	**Utility**
Belgium	6.5	0.3	34.4	0.041	8 037	2.35	3	3	0.630
Netherlands	5.9	1.0	36.9	0.046	8 523	6.03	1	1	0.799
Austria	5.8	0.5	36.2	0.043	9 218	2.69	2	2	0.686
UK	6.2	2.0	26.0	0.039	8 335	34.14	4-5	4	0.443
Czech Republic	4.5	0.6	27.3	0.042	4 601	0.09	4-5	5	0.291

Table 2: Comparison of countries according to the selected criteria

The comparison described above was aimed at the public expenditures and fees. As the area of higher education is wide and can be seen from different points of view, the results and comparisons may differ from each other and it is necessary to define the scope in view. As an example we show the results mentioned in a review made by Brown at al. (2010) – see [Figure 2] – where the order of the selected countries is inverse than in our comparison as the highest private net present value for a male with higher education was in the Czech Republic (244 USD), lowest in Netherlands (100.5 USD). So this is another perspective that can be followed.

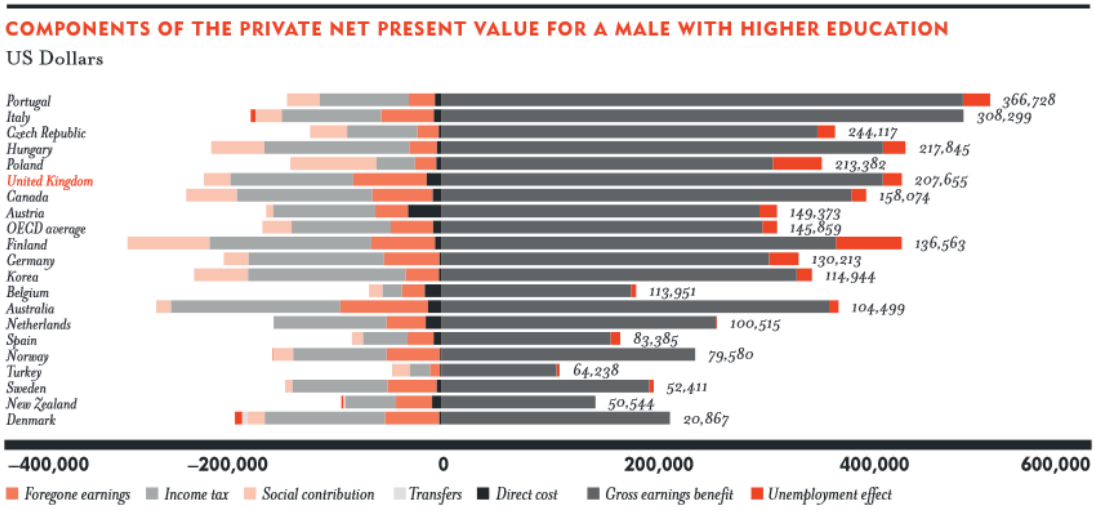

Figure 2 – Components of the private net present value for a male with higher education (2010) (Source: Brown et al., 2010)

CONCLUSION

The main aim of this paper was the comparison of funding system of higher education (specialized at professional education) in selected countries. We may conclude that each country has its own specific rules and different conditions of public and private funding. All countries except of the Czech Republic use systems of the tuition fees paid by students (extreme values we see in UK). The results correspond with previous expectation – that the system in Netherlands is aimed at the higher professional education mode than in other countries and that the higher education funding is still below the level of other countries which opens the question of the tuition fee installation.

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How Sighted And Blind Students Perceive Relational Similarity Between Font-Size And Loudness In Text-To-Speech

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ABSTRACT
Font-size variations constitute text signals that help readers to create an organizational framework for the coding of a text. The current study investigates the relational similarity between font-size and the voice loudness in Text-to-Speech (TtS) as perceived by sighted and congenitally blind students in primary and secondary education. We conducted two experiments with 25 blind and 26 sighted participants. In the first experiment, we have explored how a polar value of one dimension maps to the polar value of the other dimension. In the second experiment we have studied how the notions of the participants about one dimension map on to the perceived poles of the other dimension. The results confirm the hypothesis that all participants demonstrated a high consistency of polarity choices and relational similarity between font-size and loudness in TtS.

INTRODUCTION
Printed or electronic textbooks constitute the main class of documents in the domain of education. The content of a document includes mainly the text and the images. The term *text-document* refers to the textual content only of a document. Besides its content, a printed or an electronic document contains a number of presentation elements or attributes (Kouroupetroglou & Tsonos, 2008) that apply on its text content: a) design glyphs or typographic elements (i.e. visual representation of letters and characters in a specific font and style) and b) arrangement of the content on the page and the document as a whole. Presentation elements include: a) font (type, size, color, background color, etc.) and b) font-style, such as bold, italics, underline. In contrast to the rich text, the term plain text indicates text in any unique font type and size, but without font style.

Rich-text documents use writing devices which intend to highlight the important information which is in the text as well the text structure (Kintsch, & van Dijk, 1978). The term text signal has been proposed (Lorch, 1989) as the writing device that emphasizes aspects of a text's content or structure carrying semantic information over and above the content. It attempts to pre-announce or emphasize content and/or reveal content relationship (Lemari, Eyrolle, & Cellier, 2006). Headings or titles in text-documents are considered as signals (Lorch, Chen, & Lemari, 2012).

The font-size of a chapter heading in a textbook is usually bigger than the font-size of the main text. It is also bigger than the one of the subheadings, if there are any in the text (Steno & Retti, 2003). Thus, the different font-sizes used in textbooks aim mainly to differentiate the headings and the footnotes from the main text as well as to accomplish a hierarchy among different level headings. It has been experimentally proved that font-size and font-type influence memorization and comprehension. Both of them help the readers in the creation of an organizational framework for the coding of a text (Smith & Sera, 1992; Spyridakis, 1989a), which facilitates them to maintain and to recover information (Spyridakis, 1989a; Spyridakis, 1989b; Sanchez, Lorch & Lorch, 2001). Font-size represents the main characteristic that reveals the text macrostructure to the reader (Kintsch & Yarbrough, 1982).

Nowadays, Text-to-Speech (TtS) software systems (Freitas & Kouroupetroglou, 2008), combined with screen readers (Asakawa & Leporini, 2009), constitute the main alternative for the blind and partially sighted students to access the content of schoolbooks and other educational resources. Moreover, TtS represent an emerging technology in teaching and learning of non-disabled students (Rughooputh & Santally, 2009), as well as in the practice of Universal Design for Learning (Gordon, Proctor & Dalton, 2012).

Most of the current TtS systems treat the content as plain text and do not support an effective audio provision of the presentation elements or text signals of a document, such as font (type, size, color, background color, etc.) and font style (Fellbaum & Kouroupetroglou, 2008). As a consequence, blind students or learners who use the audio channel only to access educational content through TtS lose important information incorporated in a rich text document and they are at a disadvantage respectively to the typical readers who use their vision to access the same content. Recently, there has been an effort towards Document-to-Audio (DtA) synthesis (Kouroupetroglou, 2013),

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which essentially represent the next generation in TtS. DtA supports the efficient acoustic representation of typography and text formatting through modelling the prosodic parameters of the synthesized speech signal.

In the present study our effort is to discover relation similarities between dimensions that are perceptible through different senses, such as the font-size and the loudness in TtS. The semantics of quantitative dimensions, such as the size and the loudness, are often conceptualized with the significance of the named *poles*. One pole is the positive or differently *more* and the movement towards this pole is augmentative, while the other pole is negative or *less* and the movement in this direction is decreasing (Holyoak, 1978). A number of researchers have supported that the origin of these poles is found in our sensory system (Boring, 1993; Marks, Hammeal & Bomstein, 1987; Treisman & Gormican, 1988). According to Stevens (1957), the quantitative dimensions, such as size and loudness, have certain unitary and well-defined psychophysics attributes which he calls "prothetic". These psychophysics attributes are reflected in a common sensory physiology. Thus, size and loudness have a common sensory physiology and consequently the directions of psychological decrease or increase are specified by the physiology of the sensory system (Smith & Sera, 1992).

Smith & Sera (1992) found that the children that are older than 2 years begin to correspond to the dimensions of size and loudness with the significance *more* or *less*. Another factor which contributes to this cross-correlation is the natural structure of the world. The bigger objects tend to make more noise than the smaller ones. The results of Smith & Sera research show that the young children know this cross-correlation, which helps them to combine the notions *big* and *loud*. Under this view, Smith & Sera, propose that, apart from the predetermined sensory structure, other factors also exist, such as the language and the physical structure of the world that converge to this correlation.

As there is a lack of research on the relational similarity between font-size and loudness in TtS used by blind and sighted persons, this work aims to contribute towards this achievement, particularly in the domain of education. Our main hypothesis is that congenitally blind and sighted students in primary and secondary education perceive a linear relational similarity between the dimensions font-size and voice loudness in TtS.

METHOD

Of the 51 Greek students who took part in the study, 25 were congenitally blind or students who became blind during the first years of their life and the other 26 were sighted. Among them, 29 were females (15 blind and 14 sighted) and 22 males. The sighted students ranged in age from 10 to 17 and the blind students ranged in age from 10 to 18. In particular, 15 of the 25 blind participants were students of the secondary education and 10 of the primary education. Moreover, 16 of the sighted participants were students of the secondary education and 10 of the primary education.

In order to select the values for the font-size, we statistically analyzed a corpus of 72 textbooks (a mixture of all subjects): 36 of them use by the K-12 schools in Greece and 36 in the English language used by the K-12 American Community School in Athens, Greece. The results indicate that the text size has a range between 6 pts and 72 pts. With a view to design an experiment with duration of less than half an hour, the selected font-sizes were 12pts, 32pts and 56pts. In order to achieve a linear relationship between the two modalities (y=0.6566x+45.7 , y=loudness in db and x=font-size in pts), we selected the values of loudness to be 53db, 68db and 82db.

The acoustic stimuli generated with the Document-to-Audio (DtA) software tool (Xydas, et all, 2005) along with the DEMOSTHéNES Greek TtS system (Xydas, & Kouroupetroglou, 2001). The optical stimuli were generated as MS-Power Point presentations. Blind participants had access to the presentation using the JAWS screen reader software Ver. 11.0 (Freedom Scientific, 2014).

All participants used a laptop (Acer Aspire 1314LC) with a screen of 15´´ (resolution 1024X768), MS-Windows Vista operating system and semi-open headphones (AKG K-66).

There were two tasks:

A) Percept-to-Percept (P-P) task: This task investigates how a value on one dimension maps onto the polar values of another dimension; the participant is presented with an exemplar stimulus of a value on one dimension and is asked which of two choice stimuli values on the other dimension is like the exemplar. Initially, a visual exemplar of the biggest or the smallest value of one dimension (e.g., the font size, as it appears in Figure 1) was presented to each sighted participant and the researcher raised the following question: «If you have to read the word you see, in such a way so that your schoolmates perceive the specific font size the word is written, which voice you will select between the two you will hear? » For a blind participant, the researcher first explained that:

«Contrary to the Braille writing, the letters used in the texts for sighted people do not always have the same size. Sometimes they are bigger than regular, such as in headings, and at other times they are smaller, as in footnotes. Imagine a Braille cell to be bigger in the titles than in the main text, and be smaller in the footnotes». Then, he raised the following question: «If you had to read the word "pyramid" that is written with very big letters, in such a way, so that your schoolmates perceive the font size the word is written, which voice you will select between the two you will hear? » Next, the P-P task was repeated with the addition of an intermediary value in each dimension. In the case the exemplar was auditory and the stimuli of choice visual (Figure 2), the researcher raised the following question to the sighted participants: «Which of the words you see matches better the voice you will hear?». For a blind participant, the researcher first explained that: «The word triangle has been written twice: first with very big letters and second with very small letters» and then he asked: «Which of the two words matches better the voice that you will hear?»

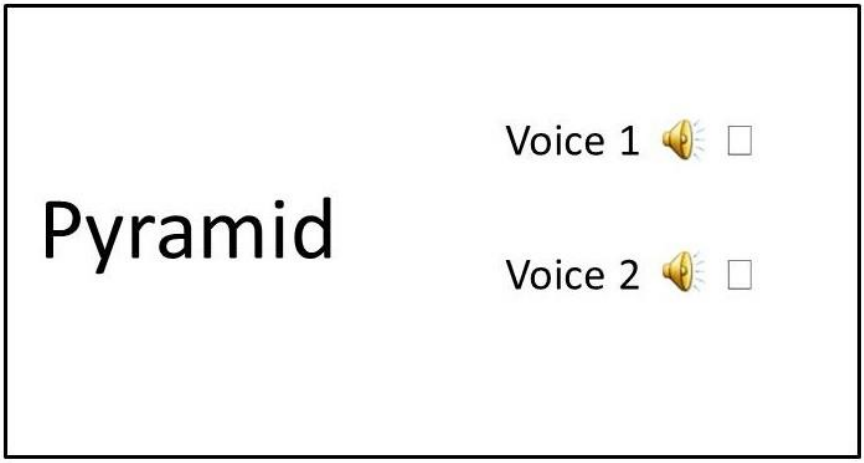

Figure 1: Visual exemplar with auditory choice stimuli.

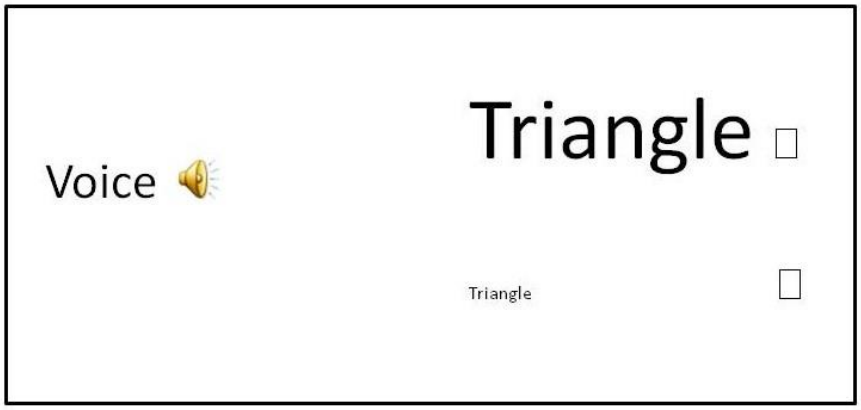

Figure 2: Auditory exemplar with visual choice stimuli.

B) Word-to-Percept (W-P) task: In this task we examine how the words on one dimension map to the perceived poles of the other dimension. A word expressing a value in one dimension was presented and the participants were asked to correlate it with the suitable choice stimulus of the other dimension. In the case of the blind participants, the researcher asked: a) for the word exemplar with the notion of font-size: «With which of the three voices that you will hear can you match the phrase big letters? » and b) for the word exemplar with the notion of voice loudness «We have written the word triangle three times. The first time with very big letters, the second with normal letters and the third time with very small. With which of these words can you match the word loud?» The words used as exemplars had always the same font-size.

In the Percept-to-Percept task (P-P) 20 questions were presented in total. In 10 of them, the exemplar was visual, i.e., a word with one of the three font-sizes and the choice stimuli were auditory. In the rest 10 questions the opposite was applied. In the Word-to-Percept task (W-P), 20 questions were also presented in total. In 10 of them, the exemplar was a word or phrase described one of the three font-sizes and the choice stimuli were auditory (3 voices with different loudness). In the rest 10 questions the exemplar was a word or phrase describing one of the three voice loudness and the choice stimuli were visual (words with three font-sizes). In both the P-P and the W-

P tasks the questions were presented in a random order for each participant. Between the two tasks, there was a time interval of four weeks. The acoustic stimuli were repeated, if a participant hesitated to answer or asked to hear them again.

The participants were asked individually in a quiet room. Each participant was sitting in front of the computer desk. Prior to the above tasks they were familiarized with all the visual and auditory stimuli.

RESULTS AND DISCUSSION

The results for the means of the consisted choices are presented in Table 1: a) for the blind participants in the P-P task M=19.56 (97.8%) and M=20 (100%) for the W-P task, and b) for the sighted participants in the P-P task M=19.96 (99.8%) and M=19.85 (99.95%) for the W-P task respectively. Thus, we observed very high rates of consistent choices between font-size and voice loudness in both conditions of the research. The mixed design ANOVA, 2(visual condition of the participants)×2 (task), did not show significant differences, either between the participants, $F(1.49)=0.478$ $p>0.05$, Partial Eta-squared = 0.01, or within the participants, $F(1.49)=2.384$, $p>0.05$, Partial Eta-squared =0.046.

Table 1: The means of the consisted choices in the P-P and W-P tasks.

Task	Participants	Mean	%	Std. Deviation	N
P-P	Blind	19.56	97.8	1.64	25
	Sighted	19.96	99.8	0.20	26
	Total	**19.76**	**98.8**	**1.16**	**51**
W-P	Blind	20.00	100.0	0.00	25
	Sighted	19.85	99.2	0.78	26
	Total	**19.92**	**99.6**	**0.56**	**51**

The means of the valid answers between the blind and the sighted participants for the polar choices (Table 2) did not present important differences. Thus, the polarity does not seem to be influenced by the visual condition of the participants. The results of the mixed ANOVA design 2(vision condition)×3(pole) showed no statistically significant differences between the groups $F(1.49)=0.478$ $p>0.05$, Partial Eta-squared=0.01, and within groups $F(1.49)=1.19$ $p>0.05$, Partial Eta-squared=0.24.

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Table 2: The polar consistent choices between the blind and the sighted participants.

Pole	Participants	Mean	%	Std. Deviation	N
MORE	Blind	15.80	98.75	0.82	25
	Sighted	16.00	00.0	0.00	26
	Total	**15.90**	**99.4**	**0.57**	**51**
MEDIUM	Blind	7.96	99.5	0.20	25
	Sighted	7.92	99.0	0.39	26
	Total	**7.94**	**99.3**	**0.31**	**51**
LESS	Blind	15.80	8.75	0.82	25
	Sighted	15.88	99.3	0.43	26
	Total	**15.84**	**99.0**	**0.64**	**51**

Table 3 presents the results of the consistent choices among the students of primary and secondary education when the exemplar was a word (with different font-sizes) or a voice (with different loudness). The mixed ANOVA design 2(education level)×2(exemplar) shows that there was no significant difference either between the groups $F(1.49)=2.223$ $p=>0.05$, Partial Eta-squared=0.043, or within the groups $F(1.49)=1.164$ $p>0.05$, Partial Eta-squared=0.23.

Table 3: The consistent choices among the students of primary and secondary education.

Exemplar	Education	Mean	%	Std. Deviation	N
FONT-SIZE	Primary	20.00	100.0	0.00	21
	Secondary	19.63	98.2	1.07	30
	Total	**19.78**	**98.9**	**0.83**	**51**
VOICE LOUDNESS	Primary	20.00	100.0	0.00	21
	Secondary	19.83	99.2	0.75	30
	Total	**19.90**	**99.5**	**0.57**	**51**

CONCLUSIONS

The results of this research study confirm our initial hypothesis that all participants demonstrated a very high consistency of polarity choices and relational similarity between font-size and loudness in TtS. Moreover, the results showed that important differences do not exist between students of primary and secondary education. Thus, the same mapping between the text font-size and the voice volume in TtS can be applied in both cases. In our future work, we will investigate the mapping between the font-type (e.g. bold, italic, and bold-italic) and the prosodic parameters in TtS as perceived by sighted and blind students.

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Ideas Of Electronic Democracy In European Higher Education Area

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ABSTRACT
The issue of unified European higher education from the quality is discussed in detail in a lot of documents related to the Bologna process. Decision making processes which are implemented in present on universities are based on traditional structures without any electronic participation procedures. This paper deals with approximately 30 months long period of implementing e-participation tools to the academic community. This research has been made as a partial outcome of European project "MyUniversity". There are discussed results from published electronic initiatives on different European universities. In the conclusion are highlighted aspects of e-participation from different level – ICT point of view, sociological point of view and also from "Digital Agenda for Europe" point of view.

INTRODUCTION
One of the key aspects towards the success of the Bologna Process is the close cooperation and interaction between governments, higher education institutions, students, staff, employers and quality assurance agencies. Our team addresses this problem though e-participation platform developed in the framework of MyUniversity project.

"MyUniversity" is a project conceived by the European Commission, whose aim is to bring together in close cooperation all university members (students, staff etc.) and university stakeholders, by the means of a transparent and user friendly e-participation (and e-democracy as well) platform. Through the use of this platform, the participating universities will be able to engage their members and stakeholders on multiple issues, to get their feedback in both local and European level. (Ivanicka, 2015, p. 346)

BOLOGNA PROCESS
The Bologna declaration was signed in the year 1999 and the resulting Bologna Process was started. An important characteristic of the Bologna Process – and key to its success – is the close cooperation between governments, higher education institutions, students, staff, employers and quality assurance agencies, supported by the relevant international organizations. Contrary to most people's beliefs, the Bologna process is not a European Union initiative, but an intergovernmental process with 46 participating countries. Obviously this goes beyond the borders of the EU since it has 27 member states. Six primary objectives are included in this process (Ivanicka, 2013, p. 160):

1. adoption of the system easily understandable and comparable diplomas,
2. adoption of a system based on two cycles of study (currently has a three-stage),
3. adoption of the credit system (ECTS),
4. improvement of the mobility,
5. improvement of European cooperation in quality assurance,
6. strengthening the European dimension in higher education.

MYUNIVERSITY PROJECT
MyUniversity project equip universities with a cutting edge e-Participation platform which give them the means to reach out to all of their members and stakeholders, informing them of the issues under debate and providing them with innovative interactive tools so they can actively participate in the process. Thus providing the higher education decision making process with valuable input towards future polices and legislation. MyUniversity is the project of the EU Information and Communication Technologies (ICT) Policy Support Programme of the Competitiveness and Innovation Framework Programme (CIP)-(CIP-ICT PSP-2009-3bis) solved by consortium of European universities and institutions Duration of the project: 33 months (October 2010 - June 2013) The project has begun on October 1, 2010.

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OBJECTIVES AND BENEFITS

Into the main project benefits, which have been described in the project proposal can be assigned answers to these questions: How citizens of different countries can benefit from contents, results and best practices generated by others. How issues being debated in one country can initiate a new discussion in a different one, or even a cross-border discussion on European matters. How easy is for decision makers to include e-participation initiatives as a new factor in their decision making processes.

During project evaluation phase, project team addressed these two project objectives as the important:

Project objective I: *"Enhancing the direct participation of citizens and civil society in the decision-making process itself, and improving the access to relevant content and available options, thus enabling them to interact with decision-makers in real time and with concrete contributions."*

Project objective II: *"Involving citizens in the policy-making process by enhancing social networking capacities, using new intermediation models, creating collaborative input to policymaking (e.g. Data gathering, sharing collective knowledge, Web2.0 technologies) thus enabling the provision of policy-making related services by citizens."*

RESULTS

During the final period of the project, the team led by Stockholm University prepared Final Evaluation Report on the Trials Impact and Potential Scalability (D5.3). Fulfillment of the key performance indicators (KPIs) are shown in the table 1.

KPI	OBJECTIVE	PERFORMANCE	LINK TO THE OBJECTIVE
KPI 1. Number of universities participating in the project	18	22	Objective I
KPI 2. Number of active portals	14	13	Objective I
KPI 3. Mean number of initiatives per active portals	10	11	Objective I
KPI 4. Mean number of portal visits	2 000	11 697	Objective II
KPI 5. Mean number of registered users	4%	6%	Objective II
KPI 6A. Mean number of forum replies per initiative	50	40	Objective I
KPI 6B. Mean number of eConsultation replies per initiative	50	31	Objective I
KPI 6C. Mean number of poll votes per initiative	50	189	Objective I
KPI 7. Number of cross-border initiatives	5	12	Objective I
KPI 8. Mean number of universities per cross-border initiative	4	5	Objective I
KPI 9A. Mean number of forum replies per cross-border initiative	50	32	Objective I
KPI 9B. Mean number of eConsultation replies per cross-border initiative	50	45	Objective I
KPI 10. Mean number of	6	5	Objective I

initiatives related to the Bologna process			
KPI 11A. Mean number of reports sent to decision makers	8	14	Objective II
KPI 11B. Mean number of replies from decision makers	15%	74%	Objective II
KPI 12. Mean number of reports sent to National Bologna Expert Groups	5	2	Objective II
KPI 13. Impact on university decision-making	4	4	Objective II
KPI 14. Impact on National Bologna Expert Groups	4	4	Objective II
KPI 15. Number of references to the project in media	18	20	Objective II
KPI 16. Number of third party events	6	29	Objective II

Table 1: Fulfillment of the project's key performance indicators

CONCLUSIONS

The electronic participation plays only a limited role in European universities at present, however it is expected that this will change in near future, at it will be more important for European policy making. European Council and Commission have presented strategy EUROPE 2020. It is the European Union's ten-year growth strategy. It is about more than just overcoming the crisis which continues to afflict many of our economies. It is about addressing the shortcomings of our growth model and creating the conditions for a different type of growth that is smarter, more sustainable and more inclusive. (European Commision, 2010) But it is necessary to take in the account these project's conclusions:

- E-participation as a phenomenon is not only dependent on the quality of ICT (WEB) instruments but especially on the ability to raise the engagement and motivation of young people.
- It is not possible to create and run a successful (high traffic) e-participatory solution / e-participatory portal without a study of methodological aspects of the civil community.
- There is a direct link between E-participation as a part of e-democracy, which is a part of the social capital. Active e-participation is a demonstration of active citizenship.

Into next research thesis should be included resolving of these five questions:

I. How to motivate people to an active E-participation?
II. How to arouse an interest in active E-participation?
III. What are the causes of participatory deficit of young people?
IV. How to increase the level of active citizenship in the post-communist countries?
V. How to examine and influence the causality of e-participation and decision-making processes?

By identifying human capital development as fundamental to smart, sustainable, and inclusive growth, the Europe 2020 strategy places education and research at the center of Europe's future economic well-being. Consequently, it opens up a wealth of opportunities for higher education institutions (HEIs), who have a key role in providing teaching, undertaking research and innovation, producing employable graduates, and developing new ideas for a changing world. (European Commision, 2010)

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Implementation Of Some Medical Data In Apriori Algorithm

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ABSTRACT
This thesis work is based on medical data mining. We collected data from medical papers and journals, and looked for around 6000 to 7000 papers/journals from these numbers we only selected 1000, and discarded the rest which were not needed or related to our work. The selected papers which we used are from years 2010 to 2015. Ourdata is, ***name or title of the paper, keywords and authors***, the focusing factor from the above data is keywords. Weperformed an implementation on the keywordsof the data. the target of the implementation is finding different relationships among these keywords. The searching keywords which we used for collecting the data are: medical data mining , medical clustering , medical classification, medical decision support system, and medical papers in fuzzy system and artificial neural network. We collected all the data manually. After we organize the data and did an implementation on data using Apriori algorithm. In the result we found two things, First onethe most occurring words (with number of occurring), second association rules among those words.

Keywords: Medical Data Mining, Association Rules, Apriori Algorithm.

INTRODUCTION
Modern medicine generates a great deal of information stored in the medical database. Extracting useful knowledge and providing scientific decision-making for the diagnosis and treatment of disease from the database increasingly becomes necessary. Data mining in medicine can deal with this problem. It can also improve the management level of hospital information and promote the development of telemedicine and community medicine. Because the medical information is characteristic of redundancy, multi-attribution, incompletion and closely related with time, medical data mining differs from other one. Medical data mining have discussed the key techniques of medical data mining involving pretreatment of medical data, fusion of different pattern and resource, fast and robust mining algorithms and reliability of mining results. The methods and applications of medical data mining based on computation intelligence such as artificial neural network, fuzzy system, decision support system, evolutionary algorithms, rough set, support vector machine have been introduced(Zhu, Wu & Cao; 1997).

Clinical databases have accumulated large quantities of information about patients and their medical conditions. Relationships and patterns within this data could provide new medical knowledge. Unfortunately, few methodologies have been developed and applied to discover this hidden knowledge. the techniques of data mining (also known as Knowledge Discovery in Databases) were used to search for relationships in a large clinical database. Many researches and studies have taken place in the field of medical data mining it is a really growing field of many future researches and at the same time one of the most important field to our life, because all these researches are based on medicine and we know when we hear the word of medicine then suddenly the word of Health is also coming to our mind, in-fact we can say these studies are related to our health and health is one of the most important factor of our life and it is an accepted fact to all. Meanwhile many researches and studies took place in medical data mining for example a survey on medical data mining was done.in this survey work data accumulated on 3,902 obstetrical patients were evaluated for factors potentially contributing to preterm birth using exploratory factor analysis. Three factors were identified by the investigators for further exploration and many more examples as well(Prather,Lobach, Goodwin, Hales, Hage & Hammond; 2011).

An important survey was done By Neil Savage on September 19, 2011 from this study we can understand the importance of medical data mining I took a small portion of his survey it says: The antidepressant Paxil was approved for sale in 1992, the cholesterol-lowering drug Pravachol in 1996. Company studies proved that each drug, on its own, works and is safe. But what about when they are taken together? By mining tens of thousands of electronic patient records, researchers at Stanford University quickly discovered an unexpected answer: people who take both drugs have higher blood glucose levels. The effect was even greater in diabetics, for whom excess blood sugar is a health danger. The research is an example of the increasing ease with which scientists now scour

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digitized medical results, like glucose tests and drug prescriptions, to find hidden patterns. “You’re not constrained by the need to actually get patients lined up in a clinical trial that would be incredibly expensive,” says Russ Altman, director of Stanford’s Biomedical Informatics Training Program, whose group published the Paxil Pravachol result in the journal Clinical Pharmacology and Therapeutics this July. “We had most of this paper done probably in a month.” The spread of electronic patient records, with their computer-readable entries, is opening new possibilities for medical data mining. Instead of being limited to carefully planned studies on volunteers, scientists can increasingly carry out research virtually by sifting through troves of data collected from the unplanned experiments of real life, as preserved in medical records from scores of hospitals. Such techniques are allowing researchers to ask questions never envisioned at the time of a drug’s approval, such as how a medicine might affect particular ethnicities. They are also being used to uncover evidence of economic problems, such as overbilling and unnecessary procedures. Mining of health records “is going to build advancements in research, but also efficiencies in the health delivery system,” saysMargaret Anderson, executive director of Faster Cures, a think tank in Washington, D.C. Some large hospital systems that use electronic records now employ full-time database research teams. Laurence Meyer, associate chief of staff for research at the Salt Lake City Veterans Administration Medical Center, says he knows of more than 100 research projects using electronic records from the VA’s six million patients, who are seen at 152 hospitals and 804 outpatient clinics across the country (Savage,2011).

From the above survey we see people were using antidepressant Paxil and cholesterol-lowering drug Pravachol for better health, but recently it was found they have dangerous side effects, so these side effects were found because of recent studies and researches in medical data mining. It is also called recent development in medical field and we know medical data mining is also from the biggest parts in medical.

THE STUDY

As we mentioned early above in the abstract that our work is based on medical data mining and we performed an implementation using Rapid Miner which is a well-known data mining tool and many people use this tool for their experiments as well.

In the first step of our work we collected data for ourexperiment the data which we collected was only and only from medical articles in data mining we wanted to find 1000 related articles in medical data mining, from year 2010 to 2015 as we collect all our data manually, looked for around 6000 to 7000 articles then we selected only 1000 medical data mining related articles which were needed to our experiment and discarded the rest. Because in the searching period for the articles, most of the search resultsused to be differentfrom what we wanted, that’s why it was a time consuming and challenging work to find 1000 articles manually only and only in medical data mining, however we collected the data in an excel sheet our targeted data was name or title of the article, keywords of the article and authors of the article and the main factors on which we did the implementation were Keywords from all these selected articles/papers. In our experiment we wanted to find the relationships among these keywords and perform an implementation on these keywords in Apriori algorithm using Rapid Miner tool, after we are done with the experiment we found the expected results such as: Association rules among these keywords and also we found which keywords occur many times, in these keywords there were names of some systemswhich were used for implementation in the medical data mining field such as , artificial neural network,data mining, fuzzy system, decision support system , diagnosis, clustering, classification and so on… and in the keywords there were the names of some diesesesas well, so from the name of the mentioned system and diseases we can say the they are the systems which are used in medical data mining for implementation purposes and from the disease we can say the implementations were applied on those diseases ,so in the implementation result we found the occurring number of these systems and dieseases, and association rules for them as well.

FINDINGS

We use a data-mining tool for our experiment, which is called Rapid Miner. RapidMiner (formerly Yale) is an environment for machine learning and data mining processes. A modular operator concept allows the design of complex nested operator chains for a huge number of learning problems. The data handling is transparent to the operators. They do not have to cope with the actual data format or dierent data views - the Rapid Miner core takes care of the necessary transformations.

Today, Rapid Miner is the world-wide leading open-source data mining solution and is widely used by researchers and companies. Here we are going to show the detailed result of our implementation. To make our results much clear we show here our resulted tables from our experiment then by looking to them we can call it, self-explanatory. We implement an experiment on Apriori algorithm using Rapid Miner before we show our results let’s see how did we begin our experiment, let’s see the following Figure 1:

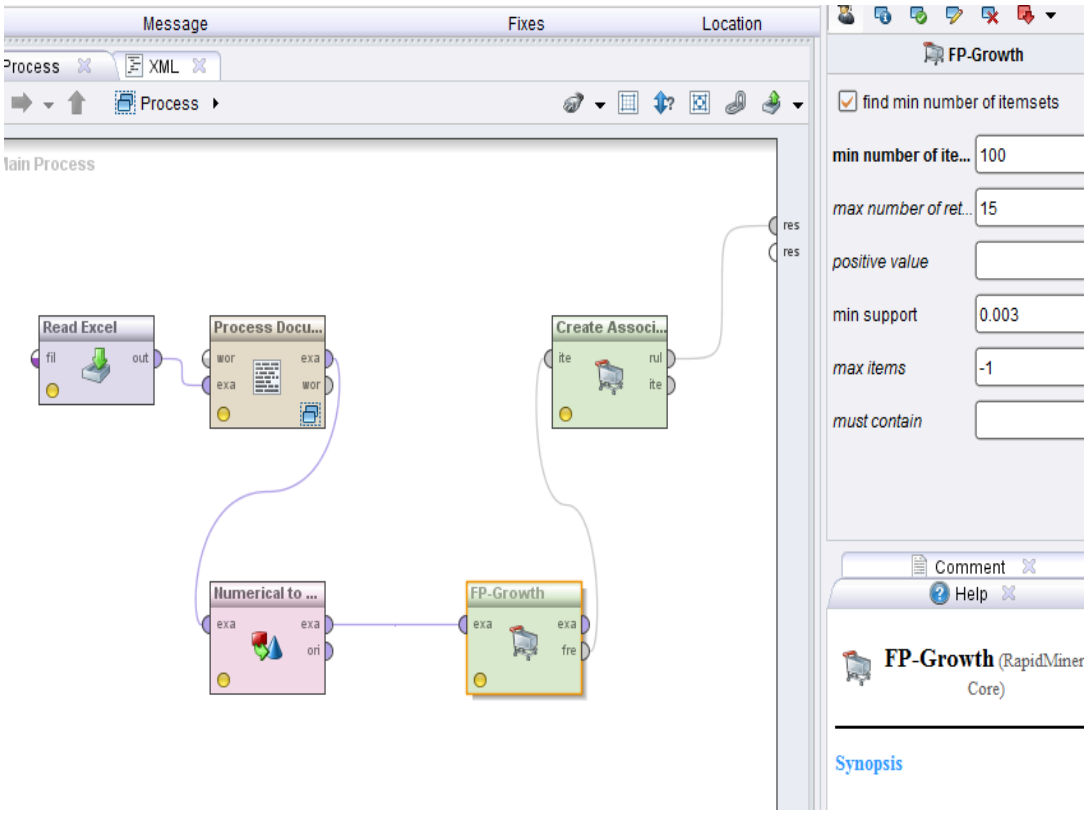

Figure 1:(FP-Growth) the box where we specify the min-sup-count

There are five boxes above in Figure 1: it is an interface of Rapid Miner from our implementation, from left to right first of all we export our excel sheet then performed a text mining process after transform Numerical data to Binominal in fourth box (step) FP-Growth we specified the minimum support count which we give 0.003. In the following Figure 2: We can see the same figure with the above one but here in Figure 2: We specify the minimum confidence= 0.08

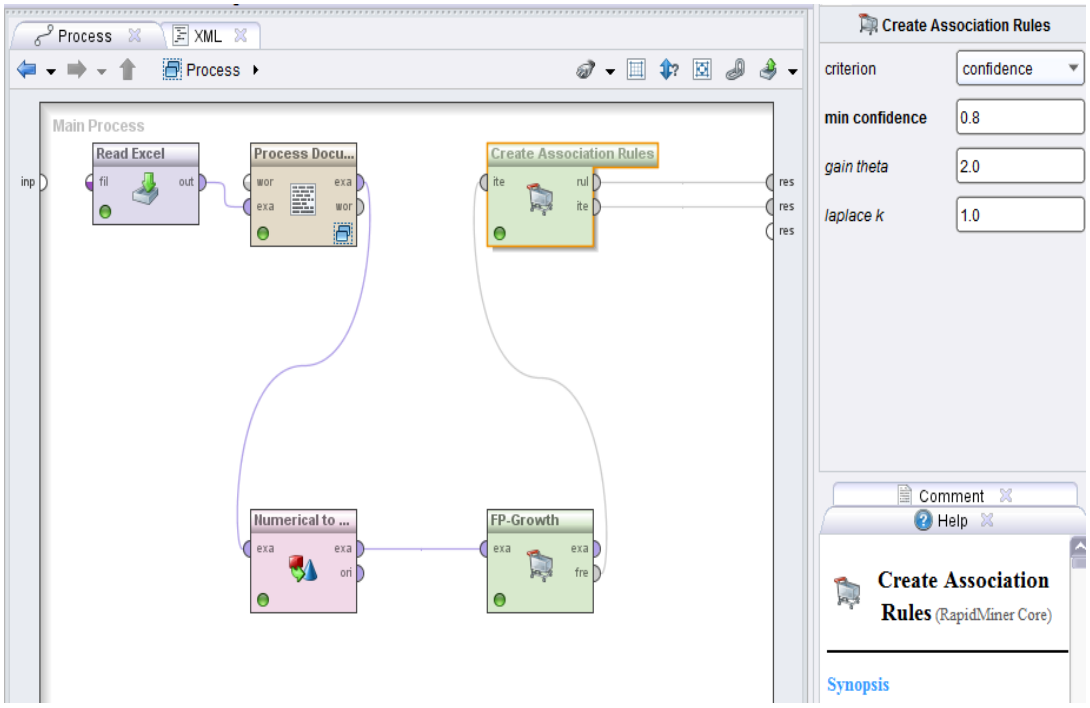

Figure 2:(Create association rules) the box where we specify the min-confidence

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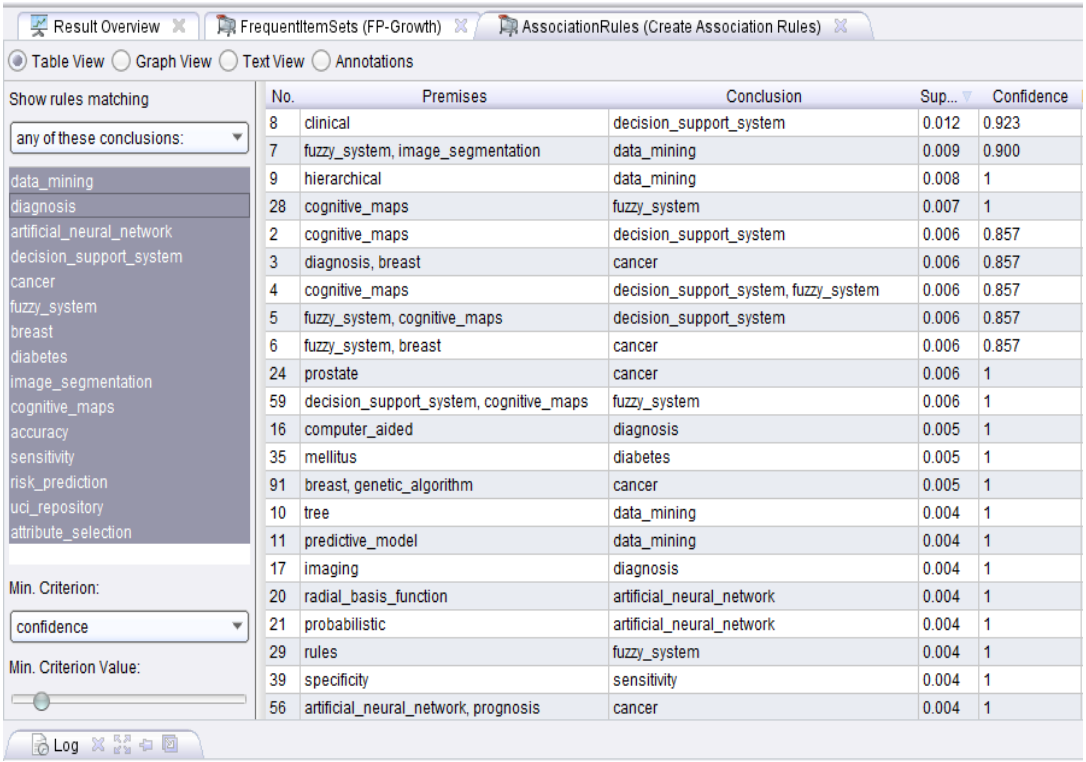
After completing the processes in above figures we run our project when the running process is finished we get the results of our experiment. As we said earlier, the focusing things from our results are finding different relationships among the given keywords such as association rules and finding the number of occurring of each keyword. To make the concept much clear let us have a look to the following Table 1: in a screen shot format

Table 1:Length of itemsets and association rules

A	B	C	D	E	F	G	H
Size	Support	item1	item2	item3	item4	item5	item6
4	0.003	fuzzy_system	accuracy	risk_prediction	attribute_selection		
4	0.003	fuzzy_system	accuracy	uci_repository	attribute_selection		
4	0.003	fuzzy_system	risk_prediction	uci_repository	attribute_selection		
4	0.003	accuracy	risk_prediction	uci_repository	attribute_selection		
5	0.003	decision_support_system	fuzzy_system	accuracy	risk_prediction	uci_repository	
5	0.003	decision_support_system	fuzzy_system	accuracy	risk_prediction	attribute_selection	
5	0.003	decision_support_system	fuzzy_system	accuracy	uci_repository	attribute_selection	
5	0.003	decision_support_system	fuzzy_system	risk_prediction	uci_repository	attribute_selection	
5	0.003	decision_support_system	accuracy	risk_prediction	uci_repository	attribute_selection	
5	0.003	fuzzy_system	accuracy	risk_prediction	uci_repository	attribute_selection	
6	0.003	decision_support_system	fuzzy_system	accuracy	risk_prediction	uci_repository	attribute_selection

In Table 1: we can see length of the item sets, there is one most longest itemsets which has six items, and six other rows which are having five, five itemsets I took them as an example they are having their own meaning and logics for example the first row says in our data these six items repeated thrice and that's true we can find it by this equation $0.003 * 1000 = 3$and same thing can be done for the other itemsets as well here 0.003 is minimum support count, 1000 is the number of our data so multiplying the min-sup-count with number of data is giving us the number of itemset in whole our data.

İn the following Figure 3: we would like to show a screen shot from the table view of our association rules



No.	Premises	Conclusion	Sup...	Confidence
8	clinical	decision_support_system	0.012	0.923
7	fuzzy_system, image_segmentation	data_mining	0.009	0.900
9	hierarchical	data_mining	0.008	1
28	cognitive_maps	fuzzy_system	0.007	1
2	cognitive_maps	decision_support_system	0.006	0.857
3	diagnosis, breast	cancer	0.006	0.857
4	cognitive_maps	decision_support_system, fuzzy_system	0.006	0.857
5	fuzzy_system, cognitive_maps	decision_support_system	0.006	0.857
6	fuzzy_system, breast	cancer	0.006	0.857
24	prostate	cancer	0.006	1
59	decision_support_system, cognitive_maps	fuzzy_system	0.006	1
16	computer_aided	diagnosis	0.005	1
35	mellitus	diabetes	0.005	1
91	breast, genetic_algorithm	cancer	0.005	1
10	tree	data_mining	0.004	1
11	predictive_model	data_mining	0.004	1
17	imaging	diagnosis	0.004	1
20	radial_basis_function	artificial_neural_network	0.004	1
21	probabilistic	artificial_neural_network	0.004	1
29	rules	fuzzy_system	0.004	1
39	specificity	sensitivity	0.004	1
56	artificial_neural_network, prognosis	cancer	0.004	1

Figure 3: Association rules table view

In above Figure 3: we can see four things at the top of the figure premises, conclusion, support and confidence as they are association rules there is a condition of IF-THEN premises stands for "IF" conclusion stands for THEN,

we know support and confidence from our earlier knowledge. Let's see rule 10 (tree → data_mining) support=0.004 and confidence=1.0 it means when there is tree then the occurring probability of data mining is 100% when confidence is 1 it means the probability of happening is 100% the same thing can be explained for the other rules as well. On the left side of the Figure 3: We can see some itemsets, so if we want to see association rules for a specific itemset then we just click on any of them we will get association rules for it.

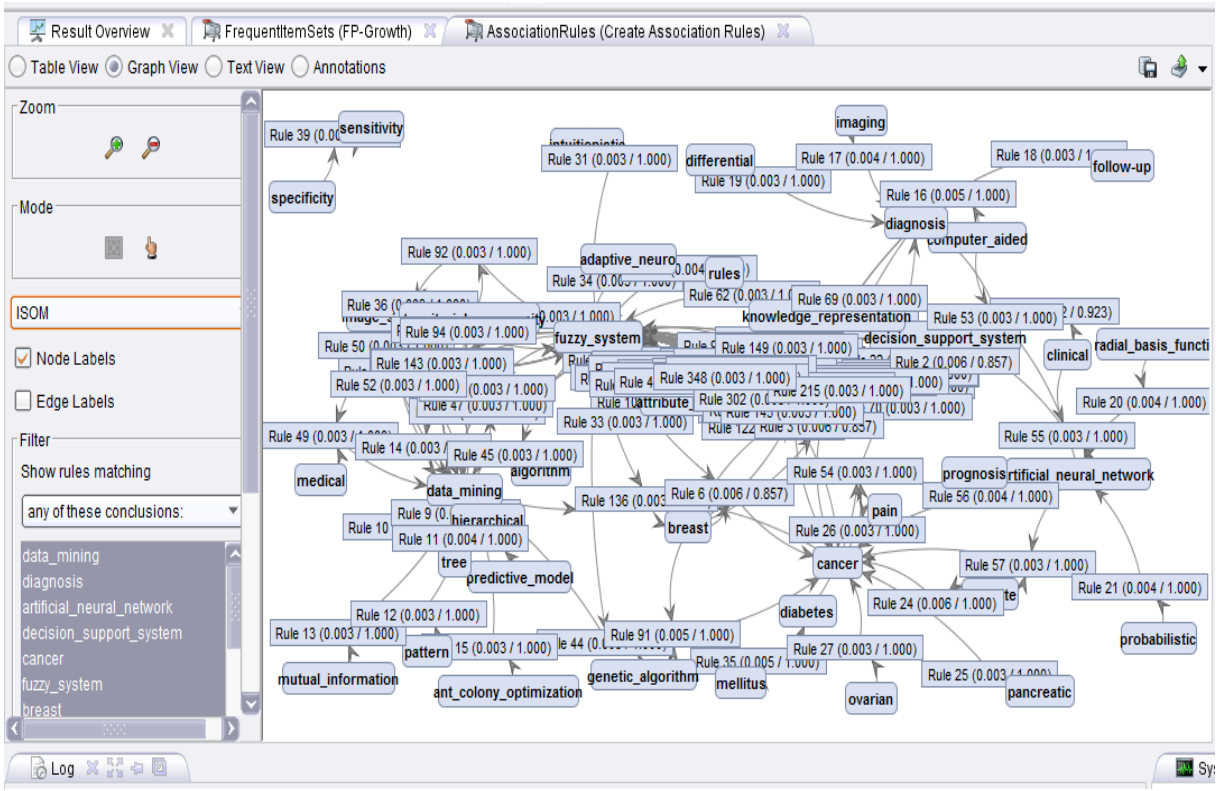


Figure 4: Association rules graph view for all itemsets

Figure 4: is graph view of the association rules for all the items this look can be different by choosing a different style. Here we select ISOM when we select another style as circle then the look will be different. In this Figure 4: Whenever we want to know an association rule indivisually for an itemset, we put the cursor on that itemset then it will give all the explanation like premises, conclusion, support, confidence, lift, gain, conviction, laplace and ps from all these explanation we just need the first four of them for the association rules and the others are not our concern. Here in graph view the concept is same as we mentioned in table view. These above table and graph views shows the resulted association rules of our experiment.

Now we will show the second resulted part of our experiment which is the occurring of the keywords and we also collected best support in a table, first let us see the most occurring keywords in the following Figure 5: So in the below figure we can see the most occurring keyword in our data is data mining , diagnosis, artifitial neural network, decision support system, cancer, fuzzy system and so on ... The name of the system means these systems used the most in medical data mining according to our data and we also found the name of some dieseases and we took here cancer as a representative for other sicknesses as well , the sicknesses in our data means the experement research was implemented considering the mentioned sickness like here we can see cancer. In the below horizontal figure we can see there are two terms one is document occurring, means number of occurring of a keyword only in a row, and another is total occorring which might be greater than the first term it means in some rows one keyword happened twice or even thrice as well.

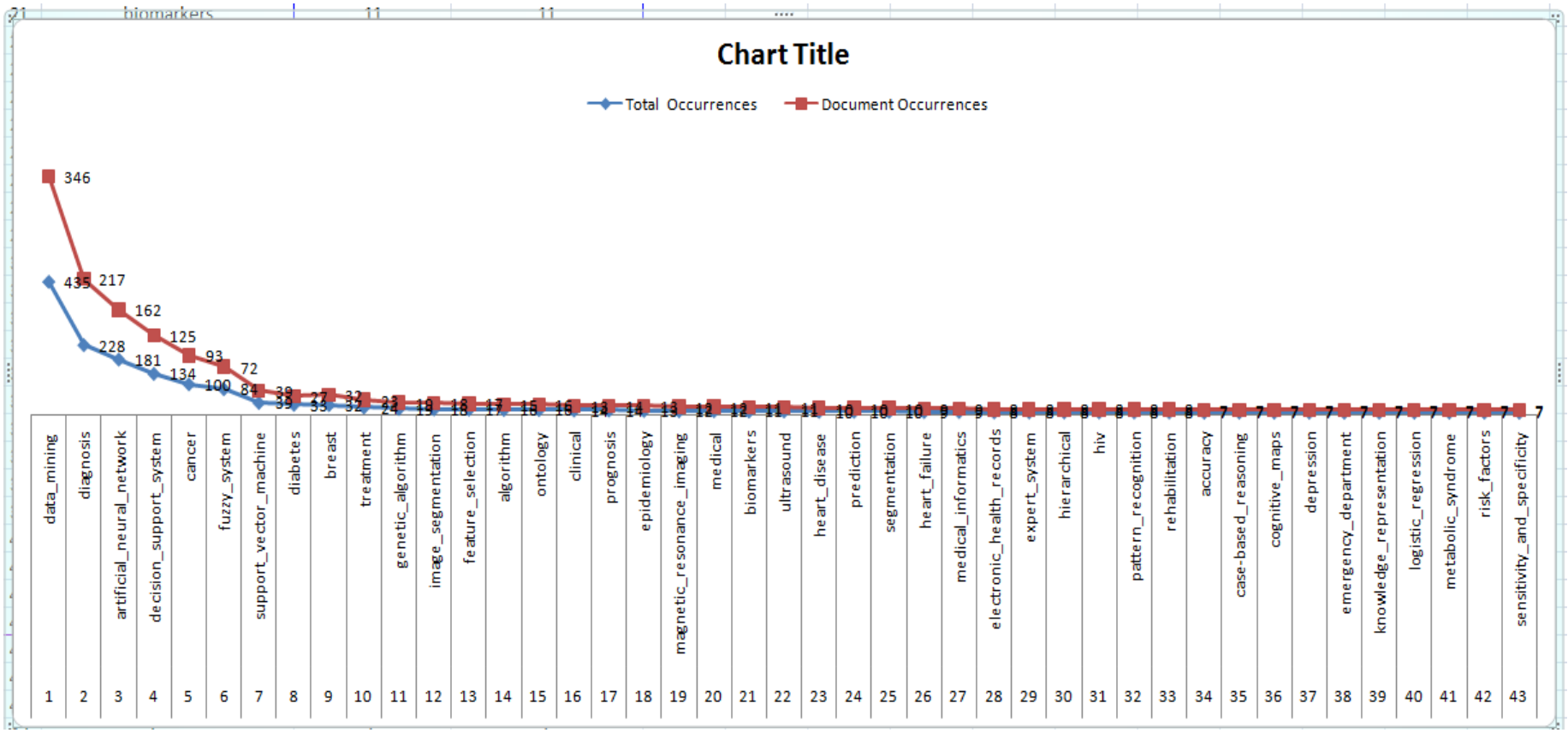


Figure 5: Occurrences of itemsets graphically shown

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In our experiment all support and all confidences are considered because all of them are greater or equal with the min-support-count and min-confidence considering the condition of greater or equal to, we can take them all, but in the following Table 2: we take only the 23 best supports from 517 association rules.

Table 2: Collection of best supports

No	No	Premises	Conclusion	Support	Confidence
1	8	Clinical	decision_support_system	0.012	0.923076923
2	1	data_mining, image_segmentation	fuzzy_system	0.009	0.818181818
3	7	fuzzy_system, image_segmentation	data_mining	0.009	0.9
4	9	Hierarchical	data_mining	0.008	1
5	28	cognitive_maps	fuzzy_system	0.007	1
6	2	cognitive_maps	decision_support_system	0.006	0.857142857
7	3	diagnosis, breast	cancer	0.006	0.857142857
8	4	cognitive_maps	decision_support_system, fuzzy_system	0.006	0.857142857
9	5	fuzzy_system, cognitive_maps	decision_support_system	0.006	0.857142857
10	6	fuzzy_system, breast	cancer	0.006	0.857142857
11	24	Prostate	cancer	0.006	1
12	59	decision_support_system, cognitive_maps	fuzzy_system	0.006	1
13	16	computer_aided	diagnosis	0.005	1
14	35	Mellitus	diabetes	0.005	1
15	91	breast, genetic_algorithm	cancer	0.005	1
16	10	Tree	data_mining	0.004	1
17	11	predictive_model	data_mining	0.004	1
18	17	Imaging	diagnosis	0.004	1
19	20	radial_basis_function	artificial_neural_network	0.004	1
20	21	Probabilistic	artificial_neural_network	0.004	1
21	29	Rules	fuzzy_system	0.004	1
22	39	Specificity	sensitivity	0.004	1
23	56	artificial_neural_network, prognosis	cancer	0.004	1
24	12	Pattern	data_mining	0.003	1

In our experiment the minimum support count=0.003 so all the resulted supports are equal or greater than 0.003 in this case we can consider all the supports, but the bigger once are much better that's why we show only the greater once on the above table, from number one to number twenty three, all the supports are greater than 0.003 but from 24 to the rest (517) all supports are 0.003 and it starts from number 24 as we can see it in Table 2:above. Meanwhile except one, two, three and 6-10 confidences are not one or hundred percent, but all the rest are 100%.

CONCLUSIONS

In this experimentwe performed an implementation using a data mining tool Rapid Miner and got the expected results successfully.

As we mentioned early the aim of this work is to find different relationships among the keywords such as: Association rules for the itemsets, support and confidence for each association rule we also found the number of occurrences of each itemset finding them are also giving us a good and meaningful result.

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For the future work, we will try to compare all the results obtained in these 1000 papers, in our case we just collected the names of the articles, keywords and authors of the articles and we performed our implementation on the keywords, but we are planning to look for all the results in these 1000 papers and then compare them, then we will find which system gave much better results in medical data mining.

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Inclusive Approach As A Field For Integrating Foreign Pupil Into Education At Primary School

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ABSTRACT
The prepard project, which is presented on the conference is in line with current trends in educational policy of the Czech Republic deals with intercultural education with a focus on disadvantaged groups of foreign pupils at Czech schools. View of the still increasing number of foreign pupils at Czech schools is the main aim of the project to reflect the current situation of the integration of foreign pupils in the education at primary school. The aim of the project is to implement the research whose results would allow to identify key problem areas and suggest measures that will lead to the improvement of primary education, the undergraduate training of teachers, with an emphasis on the development of individuals and society.

The survey design combines quantitative and qualitative approaches. The main objective of the research is to look at the issue of integration of foreign pupils from several points of view and to provide a comprehensive insight of the process of integration of foreign pupils in the education at primary school.

The research is a part of the international project – Inclusive Education no. 4401/11 – Institut for research and development at Faculty of Education - Palacký University, Olomouc, Czech Republic.

Key words: integrating foreign pupils, primary school, primary school pupil, field research, foreign pupil, intercultural education.

1. REFLECTION OF PROBLEM

In the last decade of the twentieth century was one of the characteristics of the Czech Republic mainly mono-cultural composition of society. In these days is the situation very different. The formation and subsequent EU membership has resulted in the political, legislative, cultural and social changes pervading the really whole of Europe. The Czech Republic became ethnically heterogeneous state in which there is a blending of cultures, values and opinions. Today, our country is one of the post-communist countries with the highest number of foreigners. Changes in composition of the population changed significantly character of Czech society, which resulted in addition of enrichment of the entire community, including misunderstanding and internal unrest.

From the perspective the current structure of population can be said that the Czech Republic along with the majority population there are so-called "traditional" minorities (Germans, Slovaks, Poles, Hungarians, Slovaks and Ukrainians) and new minorities. Besides the presence of foreigners in the Czech Republic is an important factor affecting the multicultural situation also Gypsies. On this ethnic group the project is not focused, because this solution is too specified.

Czech society and the Czech educational system has developed increased efforts to the address the situation of immigrants. Necessity of tolerance and understanding of students of different mother tongue and cultural background is emphasized more and more. The regularly published statistical data on foreign nationals show an increasing number of children who were born in the Czech Republic. According to Act no. 561 of preschool, elementary, secondary, higher and other education (*Úplné znění zákona č. 561/2004 Sb*), compulsory school attendance applies, except citizens of the Czech Republic, citizens of another EU member state, the Czech Republic who are staying longer than 90 days, as well as to other aliens who are authorized to reside in the territory permanently or temporarily for a period longer than 90 days and the parties of granting international protection.

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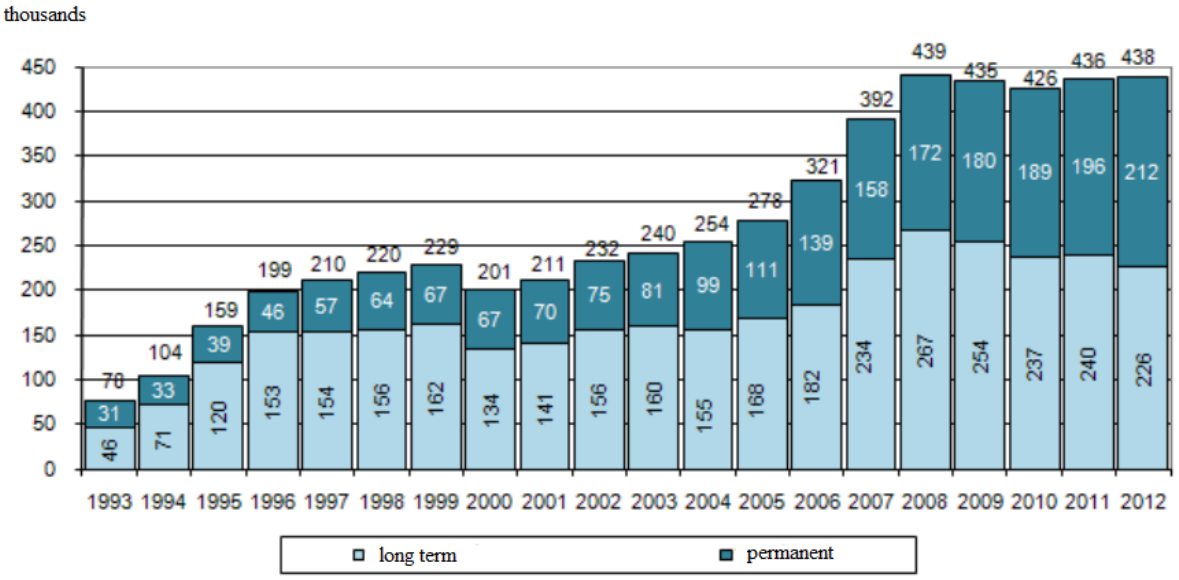
Graph no. 1: Foreigners with permanent and long-term stays over 90 days in the Czech Republic



Source: Částková, 2014

Foreigners who complete primary schooling at primary or elementary special schools, is allowed to free tuition, as well as other citizens of the Czech Republic. The free education they are entitled only here legally residing foreigners, so foreigner's admission to primary school subject by proving his right to stay in the Czech Republic. The documents must be submitted no later than the head teacher in day of arrival to school. Children-foreigners can use all school facilities as well as Czech children (Filipová, 2006).

Graph no. 2: Foreign students by the type of school

	03/04	04/05	05/06	06/07	07/08	08/09	09/10	10/11	11/12	12/13
nursery school	3252	3244	3213	2811	3078	3535	3963	4233	4714	5434
basic school	12973	12113	12279	12504	12963	13583	13839	14109	14315	14551
high school	3584	4250	4940	5615	6314	7134	7900	8458	8852	9024

Source: Částková, 2014

Number of foreigners at primary schools is gradually increasing since 2002. As follows from the analysis of the Czech Statistical Office, elementary schools are a type of school with the second highest number of foreign pupils. Therefore, that situation should be actively addressed. And analyze the current state of education of foreign pupils at primary schools in the country.

Both theoretical and practical aspects of education of foreign pupils and multicultural education in educational circles have their place and cannot be ignored in research projects. The object of investigation was carried out relations between the majority and the minority, the formation and development of prejudice and the influence of different learning techniques to pupils of different population groups. Initial research in the field of intercultural education was carried out at 40 years of 20th century was focusing on the relationship between the level of education attained and cultural attitudes. Earlier studies were based on experimental methods, without any ties to theoretical foundations. Despite this lack of research laid the foundation of intercultural education. A significant shift in the field of intercultural education can be recorded in 80 years when gaining intercultural education institutional form. The greatest developer in this area was James Banks, who developed the concept of the school as a multicultural social system (Total school environment change) (Banks, Mcgee Banks, 1989).

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In education, the majority of research this time focused on general characteristics, conditions and preconditions of intercultural education. Specifically, the researchers focused attention on the relationships and attitudes (Hammer, Bennett & Wiseman (2003), Bassey (1997), Moses (1997)), teaching methods, objectives and curriculum (Anderson (2000), Hernandez (1989), Parker (2007), Milhouse (1996)). These researches, however, lack a detailed insight into the problems and do not take into account the influence of the educational reality.

The first exploration of intercultural competence has begun to emerge in the years 1950-1960 in the United States of America. Research based on the need to eliminate communication barriers acting between individuals from different cultural backgrounds. Since an increasing number of multicultural interaction between 1970-1980 and allocated research expanded into several areas (foreign trade, international studies, acculturation of immigrants, etc.). During these formative years, based on mapping studies of intercultural competence of attitudes, values, motives and individual views of individuals studied (Byram, 1997). Significant contribution in the field of intercultural competence Deardroff noted that in their work further defining intercultural competence (Deardorff, 2004).

The situation in the field of research in the Czech Republic as well as in the world is based on the current social needs. Due to historical events is not in our conditions until the nineties of the twentieth century space for the development of intercultural education. With the change of the political situation came a new wave of ideas and authorial approaches to education. During this period, the partial surveys progressively monitored demographic, sociological, psychological and economic aspects of migration and the changing cultural environment. Průcha (2000) identifies three main areas of research of intercultural education. It is the issue of prejudice (their origin and formation) against members of other races and ethnicities. With these findings are confronted by the real attitudes and opinions of young people. Indicates of the results of comparative international studies are showed a significant discrepancy between the proclaimed positive attitude towards immigrants and low interest in their cultural specificity. The last aspect is the school curriculum as a source of cultural prejudices. In these days we try to use the inclusive approach.

Czech researchers dealing with intercultural education in accordance with the above research division focused on public opinion and attitudes of the majority of the population towards minorities, the relationship between knowledge and ethno-cultural characteristics (Hirt, Jakoubek, 2005). The distinguishing feature of research is their anticipatory character based on both the current situation in society and the prognosis of the migration progress (Hladík, 2009). Research area can be set aside into several subgroups according to the focus. These include the demographically oriented research (numbers of foreigners, migration waves - Czech Statistical Office) or socially oriented research surveys (assimilation and integration of foreigners into Czech society as Drbohlav, Lukšíková; Uherek, Černík).

In terms of primary schools are research focused on the level of knowledge of students of different ethnic and cultural groups and majority pupil's attitudes towards members of these groups. Průcha (2001) presents the results of the investigation (which is confirmed by research Nekludová), according to which ethnic stereotypes created already in preschool children. These findings point to the inefficiency of existing educational "multicultural" programs. Other research investigations such as monitoring the impact of cultural differences on education and training, the relationships between teacher and student, methods of multicultural education, the inclusion of cross-cutting theme in individual subjects, etc. (Morvayová, Moree, Hajská, Bořkovcová; Svoboda, Plischke). Specific contributions in the field of research on intercultural education are non-profit organizations and multicultural centers. The most notably is profiled by People in Need, with an educational program Variants for ten years trying to assist in implementation of multicultural education into schools. With the support of European funds have already been published several analyzes on the mapping of the current situation in the field of intercultural education. Inalienable research areas are social and cultural determinants of education, which are monitored through benchmarks such as TIMSS and PISA. According to research of the school success of students are the most influenced by knowledge of the language and socio-economic status of the family (Janík, Najvarová, 2006).

Theoretical background of the project is based on the social and cognitive theory, specifically from Vygotsky's socio-historical theory (Bertrand, 1998) which places great emphasis on the social and cultural context of cognition and the role of culture in education. Particular attention is paid to social and cultural interactions that shape their ideas pedagogy and didactics. Development of the human spirit is an essential part of the social and historical process, the essence of which is acceptance of designs and imitation learning. Vygotsky's cultural-historical approach, used primarily in developmental psychology, became the basis for the development of pedagogical constructivism, social constructivism and learning by doing, without which a school for 21st century can hardly imagine.

Specifics of the primary schools in the context of intercultural education The first stage of compulsory education - primary school, carries some specifics which is necessary to observe the implementation of multicultural education. The implementations of multicultural education are mainly pupils' primary school age and associated fear of increasing the volume requirements of the curriculum.

One of the key categories of foreign pupils at primary school is working with diversity. An important goal of primary school teachers is to learn to deal appropriately and sensitively not only to the diversity of

cultures, but also with the individual personality of the pupil. Handling the diversity in the school environment may demonstrate increased productivity, more creative problem solving, and cognitive development of moral reasoning, improved relationships and overall improving interactions with peers. Besides these advantages, negative impacts of culturally inhomogeneous environment are also reported. We are talking about reduced work capacity, rejection of new information, the emergence of negative relations based on selfishness, prejudice and stereotyping, which can grow up to the bullying. To maximize the benefits of cultural diversity is necessary recognition of diversity as a valuable source of progress, promoting cooperative relations in the context of a constantly forming and developing a personal identity. Before teachers therefore is to understand the principles of cognitive barriers, the dynamics of cultural conflict and social assessment, so that the students could peacefully accept democratic values, the right to life and freedom (Parekh, 2000).
Interaction between the majority and minority companies may be positive, desirable and beneficial.
General aim of intercultural education is the perception of multiplicity and diversity as positive, using inclusive approach and understanding of multiculturalism as a chance for a better world.

2. AIMS OF PROJECT

The project focuses on the development of theories related to the integration of foreign pupils in the educational process of primary schools as part of intercultural education. The actuality of the presented issue is confirmed especially the growing number of foreign pupils in Czech schools and the resulting problems of integrating individual pupils.
The main objective of the project is to enhance the theoretical foundation issues in order to further improve the integration of foreign pupils in the Czech school environment and reflections of the current situation, the integration of foreign pupils into the education at primary school. The main aim of the project will be subject to conditional upon specific objectives, which were set at both the theoretical and empirical level.

Specific aims:

Theoretical:

- Collect theoretical grounds, which are focused on the integration of foreign pupils at schools
- Theoretically analyze the different approaches and strategies for the integration of foreign pupils

Empirical:

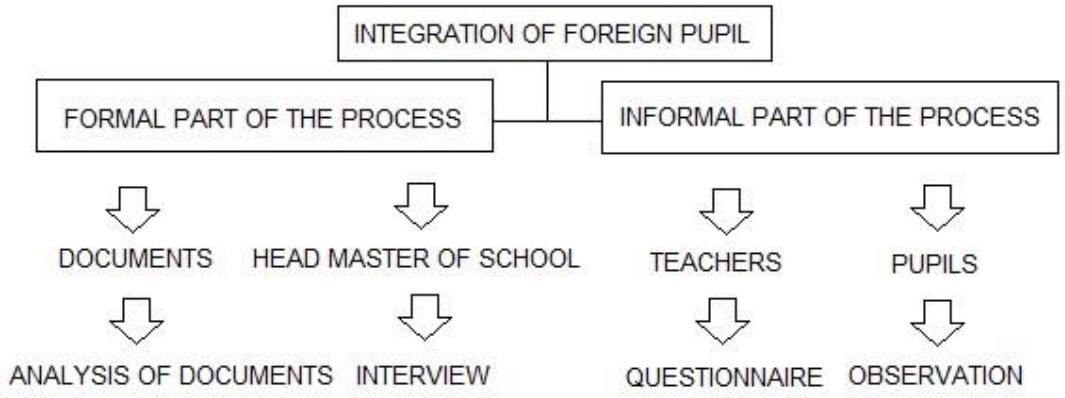
- Reflect on approaches to integration of foreign pupils at primary school practice in schools with a different approach to integration (international school, common primary schools)
    - reflect the approaches to the integration of foreign pupils at primary school practice in schools with a different approach to integration at the level of the school's documentation,
    - to reflect approaches to integration of foreign pupils in primary school practice in schools with
    - a different approach to integration in terms of the activities of the school headmaster,
    - reflect approaches to integration of foreign pupils in primary school practice in schools with a different approach to the integration of the activity of the teacher,
    - to reflect approaches to integration of foreign pupils in primary school practice in schools with
    - a different approach to integration in terms of access classmates
- Identify problematic situations in the educational process of foreign pupils at primary school,
- Suggest the possibility of solvingp roblem areas,
- Create a publication presenting a comprehensive view on the issue of integration of foreign pupils at the primary school,
- Suggest the possibilities of implementation of the conclusions of an investigation into the undergraduate training of future teachers for primary school,

We suppose that after the completion of the project will work on this issue next sequence in the form of research studies such as pupils' attitudes towards multicultural education, school climate and class in the context of the integration of foreigner's pupil, etc.

3. THE PROPOSED SOLUTION PROCEDURE AND EXPECTED OUTPUTS

Research will be mixed designed and combine quantitative and qualitative approaches. The main aim of the research is to look at the issue of integration of foreign pupils from several points of view, so that it was possible to identify problem areas. Research will be based on the diagram below.

Graph no. 3: Structure of the research



The research will examine the entire process of integrating foreign pupil as it happens in practice at primary schools. Research can be viewed on two levels; the first level is the formal aspect of the process of integration of foreign pupil (legislative and educational documents, the steps of the school). The second level is represented by page informal, under which it is possible to imagine the actions and behavior of teachers and students in the educational reality. Following this division we have dedicated four sub-steps of research.
In the first phase of the project will be an analysis of educational and legislative documents, which provide education of foreign pupils and its progress. Following the analysis of the documents will follow a structured interview with the school head, through which we get information about the formal process of inclusion a pupil at the school. According to the Director answers will be recorded on the tape recorder and transcribed, in case of disagreement will only be written to the answer sheet. The next phase of research will focus on the key factor in teacher and his knowledge and experience with integrating foreign pupils into teaching. This phase will be implemented through questionnaire investigation. Questionnaire design will reflect how the knowledge gained from the theoretical analysis and the specific pedagogical knowledge (of pedagogy, didactics, and psychology). The difference between the responses of teacher's different types of schools will be analyzed through the factor-analysis and Duncan's test. Evaluation of individual questionnaire items will be delivered using Chi-square.

CONCLUSION

The paper introduced a reflection of research on the integration of children - foreigners into the educational process, which we see based on the current events in the world as a very important issue. Furthermore, we have made a proposal of our own research, which is planned as part of the project Inclusive Education no. 4401/11 – Institut for research and development at Faculty of Education - Palacký University, Olomouc, Czech Republic.

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Inferring Program Delivery Needs Through Student Evaluation Of Faculty-In-Charge: Quality Assurance Of A Program Delivered On Open And Distance Learning In The University Of The Philippines

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ABSTRACT
One thousand and sixty-two (1,062 or 30%) of online students of the University of the Philippines Open University (UPOU) evaluated 95 course faculty-in-charge (FICs) who taught 88 courses during the first semester of academic year 2012-2013. The students evaluated the competence of their FICs, as well as the effectiveness of seven program course delivery components identified as (1) the course guide, (2) learning resources, (3) learning activities, (4) discussion forums, (5) student learning, (6) student support, and (7) the course site. Results of the study revealed basis for inferring program delivery needs. Moreover, results of the student evaluation of FIC becomes a framework for working improvements in the program delivery and strengthening FIC competencies in managing teaching and learning classes online to ensure quality learning.

Keywords: online program delivery components; program delivery evaluation, student evaluation of faculty-in-charge

INTRODUCTION

Within the framework of quality assurance is the process of evaluation which provides feedback and responses that served as bases for corrective and improvement measures attuned to meeting standards of quality and sustainability.
Evaluation is a system's component in effective management of quality. Most educational institutions views it as a process by which the management is able to determine whether the desired educational objectives are achieved and what more are needed to improve and sustain the delivery of the program.

The University of the Philippines Open University (UPOU) consistently makes deliberate strides to find evidences that will throw light on the student's development. It recognizes the essential function of evaluation as an approach in the continuous improvement of the teaching and learning processes. It always takes interest in assessing how the different courses of the academic programs are delivered such that decisive results can be observed and desired goals determined.

The student evaluation of faculty (SEF) is a process for program and professional improvement. It involves collection of performance oriented data through systematic and objective manner. These data are then used as information that leads to inferring needs for improvement of the programs, including professional updating and upgrading of competencies to make better future performance.

Evaluation of faculty-in-charge (FIC) is a university wide activity held towards the end of the semester. Students evaluate the program course delivery components to include teaching effectiveness of each course FIC who handles the course. The student evaluation of faculty-in-charge (SEF) questionnaire is made available online only for students to complete. All students are urged to evaluate their course faculty-in-charge (FIC) regularly towards the end of the trimester/semester. They are asked to rate their Faculty-In-Charge and how the program course was delivered during the period. Through this exercise both the teacher/course FIC and the student allow some ways of knowing how the learning and teaching process has succeeded in achieving desired academic goals and course objectives as perceived by the students.

How the students perceive the effectiveness of the program delivery and the competence of the course faculty – in-charge is reflected in the ratings they give. The student participation in the conduct of student evaluation of course faculty-in-charge (SEF) provides information on students' perceptions of their engagement, learning outcomes, the instructor's behavior and course activities. This feedback helps guide responsive and appropriate changes in future iterations of the program course delivery particularly the FIC's instructional competencies. The results are pictures of strengths and weaknesses of the program delivery. Where weaknesses are indicated, needs or gaps are signified. Thus, the information gathered provides a profound image of the landscape where ODL operates.

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THE STUDENT EVALUATION OF FACULTY IN CHARGE AND PROGRAM COURSE DELIVERY

This paper presents the results of the evaluation of program course delivery in ODL at the UPOU. It intended to determine students' ratings on the seven (7) components of the program course delivery and of the course faculty-in-charge (FIC), as well as the level of effectiveness of the program delivery. The results provide summative information on the level of effectiveness of the program delivery components and level of competence of the course FIC which becomes a framework for inferring program delivery needs.

METHODOLOGY

This study covered 1,062 SEF ratings for the first semester of academic year 2012-2013 gathered using a questionnaire fielded to UPOU students online using the UPOU platform, 'My Portal'. A total of 95 course faculty-in-charge who taught 96 courses were involved.

The instrument is a standard evaluation form developed by UPOU and regularly used for the ODL program delivery operation. It is divided into 2 parts where Part 1 contains the program course delivery components and Part 2 defines the criteria for competence of the FIC such as mastery of the subject matter, ability to cater to diverse learning needs and capabilities, ability to use a variety of technologies / tools to facilitate communication and learning. The components included in Part 1 are known requisites in carrying out the function and activities in online learning and teaching. These are:

- **Course Guide**. The course guide refers to the clear statement of learning objectives, explicit presentation of topics covered, specified course requirements, detailed schedule of course activities, clear policies on scholarship, intellectual honesty, and other academic matters. In sum it defines the adequate guidance to the course.

- **Learning Resources** refer to the materials for students to meet learning objectives, developed to fulfil standards of adequacy, sufficiency, relevance of the learning.

- **Learning activities** refer to the varied undertakings or exercises which engage the students towards achieving learning objectives, develop critical thinking, and synthesize learning for application.

- **Discussion Forums** refer to the platform where students are able to interact through sharing and exchange of ideas, reflection on the lessons, do collaborative construction of knowledge, as well as the ability of the FIC to moderate the forum.

- **Evaluation of Student Learning** refers to the variability of assessment tools i.e. assignments & examinations relevant to the course goals, sufficient time to work on assignments, timely feedback on student performance, clear statement of criteria for evaluating students, and adequacy of assignments and examinations to indicate a full picture of student learning.

- **Student Support** refers to the constructive, timely response of FIC to the inquiries and questions of students, as well as accessibility and availability of FIC for consultation.

- **Course Site** refers to the logical organization of learning resources, clear announcements, defined identification of assignment submission bins, and easy navigation of course site.

For each component, several specific sub-statements were posted. The sub-statements define the operational concept of each component. Students rate the sub-statements of the component which signifies the extent to which he/she agrees or disagrees. The numerical description of the extent of agreement by the student to the statement ranges from 1 to 5, with 1 as the highest and 5 as the lowest. Below is the numerical and adjectival rating:

1.00 – 1.49 Excellent 2.45 – 3.44 Good 4.45 – 5.00 Poor

1.50 - 2.44 Very Good 3.45 – 4.44 Fair

Data Preparation. Data were pre-coded for ease and convenience in encoding and processing using the SPSS program. The processing of data involved computation of group mean rating. Course FIC were grouped according to Degree Programs and Faculty. Ranking of the overall mean for program delivery components and competence of Course FIC followed.

Descriptive Analysis Employed. Quantitative analyses of data were presented in tables. Distribution of data was in means, overall means of group means and standard deviation. Cross tabulation of overall mean according to groups i.e. degree programs and faculty was also applied. Ranking of overall mean was done to determine which component of the program delivery and the course FIC were strong or high and weak or low as perceived by the

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students. Logically, the ranking would indicate the aspects where students would like their needs to be met and appropriately attended to. From the results can be inferred areas for developing programs towards the strengthening of program course delivery and enhancing competence of course FIC.

THE CONTEXT

The University of the Philippines Open University (UPOU) is the 5th constituent unit of the University of the Philippines instituted on February 1995. It offers degree and non-degree programs on open and distance e-learning. The UPOU has 3 Faculties, namely: The Faculty of Education (FEd), The Faculty of Information and Communication Studies (FICS), and the Faculty of Management and Development Studies (FMDS).

The basic statistics include the first semester of AY 2012-2013 (i.e. number of enrollees per program, number of enrollees who participated in the evaluation, number of courses offered and evaluated, number of course FIC and were evaluated).

Programs	No. of Enrolled Students	No. of Student Evaluators		No. of FIC Evaluated	No. of Courses Offered	No. of Courses Evaluated	
FACULTY		n	%			n	%
FEd	706	217	20	24	24	22	92
FICS	894	258	24.	22	21	18	86
FMDS	1966	587	55	49	51	48	94
Total	3,566	1,062 (30%)		95 (99%)	96	88	92

Table 1. Distribution of Enrolled Students, Number of Student Evaluators, Number of Courses Offered & Evaluated for the First semester of AY 2012-2013 by Faculty .

The Faculty of Education (FED) had a total of 706 students enrolled in 24 courses with 24 course FIC evaluated. Among the 24 courses offered only 22 or 92% were evaluated. Two hundred seventeen (217) or 20% students participated in the evaluation of the course FIC.

The Faculty of Information and Communication Studies (FICS) on the other hand, posted a total of 894 enrollees gathering 258 or 24% student participation in the evaluation of course FIC. It offered 21 courses with a total of 22 courses FIC teaching the courses, and with only 18 or 86% of the courses offered evaluated.

The Faculty of Management and Development Studies (FMDS), posted 1966 enrolled students in 51 courses offered, with 48 0r 94% of the courses evaluated. Moreover, there were 49 course FIC evaluated by 587 or 55% students. For the first semester of AY 2012-2013, a total of 3,566 students enrolled (excluding those in residence) in 96 courses offered; 1,062 or 30% of the students participated in evaluating the 95 course FIC. Out of the 96 courses offered only 88 or 92% were evaluated.

RATING AND RANKING OF THE PROGRAM COURSE DELIVERY AND THE FACULTY-IN-CHARGE

This part of the report presents a discussion and analysis as well as interpretation of results which include: ratings (in means) of program course delivery components including the course FIC competence, the ranking, and the standard deviation.

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Faculty	Faculty of Education n= 217	Faculty of Information & Communication Studies n=258	Faculty of Management & Development Studies n=587	Total (n=1,062
Components	Rank	Rank	Rank	Overall Rank
Course Guide	**4th**	**2nd**	**1st**	**2nd**
Mean	2.15	1.89	1.64	1.83
SD	0.94	0.78	0.34	0.68
Learning Resources	2nd	4th	4th	4th
Mean	2.10	1.96	1.87	1.95
SD	0.84	0.68	0.39	0.60
Learning Activities	7th	5th	7th	7th
Mean	2.24	2.04	1.99	2.06
SD	0.83	0.79	0.55	0.69
Discussion Forum	8th	8th	8th	8th
Mean	2.22	2.20	2.01	2.13
SD	0.81	0.91	0.53	0.71
Evaluation of Student Learning	6th	6th	6th	6th
Mean	2.21	2.05	1.94	2.03
SD	0.95	0.75	0.43	0.68
Student Support	5th	7th	5th	5th
Mean	2.19	2.10	1.93	2.03
SD	0.95	0.78	0.65	0.77
Course Site	3rd	3rd	3rd	3rd
Mean	2.11	1.92	1.77	1.90
SD	0.95	0.82	0.46	0.71
Course Faculty-in-Charge (FIC)	1st	1st	2nd	1st
Mean	1.97	1.88	1.76	1.85
SD	0.96	0.72	0.51	0.69

Table2. Rank, Mean and Standard Deviation of Program Course Delivery and Course FIC Competence

The discussions of results were grouped according to the 3 different faculties and its degree programs. Note that the data presented in tables were in overall means of groups. The mean defines the location measure. The overall means were analyzed and given corresponding rank. Ranking was meant to determine which among the program delivery components was better done and managed than the other as perceived by the students who evaluated the course FIC. The mean and the standard deviation are similar in some ways for they are affected by extreme scores. The standard deviation is a measure of spread. It describes the dispersion of distribution of observations. The Standard deviation on the other hand showed the homogeneity of character of the data. (See Table 2)

Faculty of Education (FEd). The course guide with a mean of 2.16 and SD of 0.94, ranks 4th; the learning resources with a mean of 2.11 and SD of 0.84, ranks 2nd; learning activities with a mean of 2.24 and SD of 0.83, ranks 7th; the discussion forum with a mean of 2.30 and SD of 0.81, ranks 8th; the evaluation of student learning with a mean of 2.22 and SD of 0.95, ranks 6th; student support with a mean of 2.19 and ,SD of 0.95, ranks 5th; the course site with a mean of 2.15 and SD of 0.95, ranks 3rd; and the course faculty in charge with a mean of 2.0 and SD of 0., ranks first.

The patterns of the overall mean which fall within the range of 1.50 and 2.44 indicates an adjectival rating of *very good*. Hence, the level of effectiveness in the program course delivery and course FIC competence is viewed as *very good*.

The standard deviation shows no extreme observation implying homogenous character.

Faculty of Information and Communication Studies (FICS). For the FICS, the course guide with a mean of 1.89 and SD of 0.78, ranks 2nd; the learning resources with a mean of 1.96 and SD of 0.68, ranks 4th; learning activities has a mean 0f 2.04 and SD of 0.79, ranks 5th; the discussion forum with a mean of 2.20 and SD of 0.91, ranks 8th; the evaluation of student learning with a mean of 2.05 and SD of 0.75, ranks 6th; student support with a mean of 2.10 and SD of 0.78, ranks 7th; the course site with a mean of 1.92 and SD of 0.82 ranks 3rd; and the course faculty in charge with a mean of 1.88 and SD of 0.72, ranks first. The data shows a homogenous character.

Effectiveness of the delivery of program components and the course FIC competence fell within the range of 1.50 and 2.44 which indicates the adjectival rating of *very good,* giving the level of effectiveness in the program delivery and course FIC competence as *very good*.

Faculty of Management and Development Studies (FMDS). For the FMDS, the course guide has a mean of 1.64 and SD of 0.34 , ranks first; the learning resources with a mean of 1.87 and SD of 0.39, ranks 4th; learning activities has a mean 0f 1.99 with SD of 0.55, ranks 7th; the discussion forum with a mean of 2.20 and SD of 0.53, ranks 8th; the evaluation of student learning with a mean of 1.94 and SD of 0.43, ranks 6th; student support with a mean of 1.93 and SD of 0.65, ranks 5th; the course site with a mean of 1.77 and SD of 0.46, ranks3rd; and the course FIC with a mean of 1.76 and SD of 0.51, ranks first.

The data shows no extreme observation and homogeneity in character.

Effectiveness of the delivery of program components and the course FIC competence fell within the range of 1.50 and 2.44 which showed the adjectival rating of very good. Effectiveness of the delivery of program components and the course FIC competence were indicated by the overall means which fell within the range of 1.50 and 2.44 and an adjectival rating of very good. It shows that the level of effectiveness in the program delivery and course FIC competence is at very good.

In summary, the **total** overall mean show that the course guide with a mean of 1.83 and SD of 0.68, ranks 2nd; the learning resources with a mean of 1.95 and SD of 0.60, ranks 4th; learning activities has a mean 0f 2.06 with SD of 0.69, ranks 7th; the discussion forum with a mean of 2.13 and SD of 0.71, ranks 8th; the evaluation of student learning with a mean of 2.03 and SD of 0.68, ranks 6th; student support with a mean of 2.03 and SD of 0.77, ranks 5th; the course site with a mean of 1.90 and SD of 0.71, ranks 3rd; and the FIC with a mean of 1.85 and SD of 0.69, ranks first.

The patterns of the standard deviation and the mean rating falling within the range of 1.50 – 2.44 show no extreme observation and homogenous character.

It indicates that the level of effectiveness in the program delivery and course FIC competence is *very good*.

FINDINGS

The ranking is meant to show which among the program delivery components were more effectively managed than the others as perceived by the students who evaluated the course FIC.

1. The capability and the competence of the course FIC extends to his/her ability to provide adequate guidance to the students. The course FIC was rated *very good* and generally ranks *First* among the components.

2. A quality course guide specifies clear statement of learning objectives, defined presentation of topic coverage, specified course requirements, detailed schedule of course activities, clear policies on intellectual honesty, scholarship and other academic matters. The students rated the course guide component as generally *very good* and ranks *Second* among the components.

3. Course site is a critical component in the delivery of programs and courses online. It serves as a hub similar to the traditional classroom. In here, the dynamics between course FIC and among students exists i.e. a place to post course materials, assignments, communicate with students, performs collaborative

tasks, monitor performances, among others. It is a virtual place for interaction and a support for social learning. Using the internet, one can access the course site 24/7.

The UPOU course site was found to be very good and ranks *Third* place.

4. Learning resources is a component of program delivery which is deemed essential in the achievement of learning objectives. It comes in the form of texts or printed material, videos, software, and other materials which teachers use to help the students meet the learning objectives required by the course. Accordingly, learning resources should be adequate, sufficient, and relevant enough to meet learning objectives.

   Student evaluators find the learning resources as *very good* but ranks *Fourth*.

5. Student support is another component considered for an effective delivery of program courses online. It includes constructive, timely response of course FIC to the inquiries and questions of students, and access & availability of course FIC for consultation. Students would like to have access to and immediate attention from their course FIC. They feel that an effective FIC is attentive to one's queries, request for clarification and guidance.

   The students at UPOU expressed in their rating that student support is still *very good* but ranks *Fifth*.

6. Evaluation of student learning involves the various assessment tools like adequate assignments and examinations, reaction or research paper, among others. It also includes the time element required in the submission of output, clear and specific criteria which reflect standard for measuring student's learning. Punctual feedback on student evaluation helps motivate the learners to cope and do better such that one would be able to get good or better grades.

   The evaluation of student learning component in the delivery of the program appears to be *very good* as rated by the students but ranks *Sixth*.

7. The learning activities spells the engagement of the students that would enable them achieve learning objectives, develop critical thinking skills, integrates and synthesize learning in the work place or be able to apply learning in whatever intended endeavor. Students do want to be engaged in active learning, wanting lessons to be interesting and practical, useful and meaningful enough to be applied in the work place. UPOU students find the learning activities as *very good* but the component ranks *Seventh* place among the other components.

8. Discussion forum is a kind of student support. It is a forum held online taking place inthe course site. Recitation or discussion and conversation in the form of posted messages take place in here. One will find varied interactions i.e. collaborative tasks, sharing of ideas, to construction of new knowledge among distance learners as shown by the development of the "thread". It is a fact that many of the course FIC were affiliate faculty members who are familiar with teaching in the traditional classroom setting and that the extent of their knowledge & skills in optimizing features of online technology is rather functionally basic. Since, the learners appear to be strongly led by course FIC in using technologies for learning, hence, course FIC skills in ICT, and trustworthiness becomes critical.

   UPOU students rank the discussion forum as *Eighth* though they also find it *very good*.

INFERENCES AND CONCLUSION

The findings discussed provide empirical basis for inferring program delivery needs. From all the gathered information it can be inferred that the competence of FIC still has a lot of room for improvement for excellence to be achieved. It is an indication that the faculty-in-charge who is known to be in command of the delivery of the program courses and the utilization of various technology, learning resources, among others have yet to work harder in order to fulfill the standards of excellence which the University strives to maintain.

It is interesting to note that what brings meaning and life to the teaching and learning process is always the teacher. Apparent among the components is the role and function of the course faculty-in-charge whose mastery of the subject matter and whose creativeness makes a difference when able to cater to diverse learning needs. Likewise, the abilities of the course FIC to optimize the use of the online technology motivate the students to learning more. However, the course FICs need to make their social presence more visible by spending more time 'attending' the discussion forums, being prompt in responding to queries, and giving immediate feedback.

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In conclusion, effective delivery of the programs and its courses of the different UPOU faculties are primarily anchored on the competence of the course facult-in-charge. The course FIC has to be socially present online so as to encourage student-faculty- interaction, effect cooperation and collaborative activities among students thus encouraging active learning and participation. Prompt feedback should be given by course FIC so as to communicate expectations, as well as punctuality in the submission of marked outputs from the students, and in responding to the individual learning needs. Moreover, they have to be clear on expectations and establish rules and regulations in communication.

Many, if not most of the FICs are considered digital migrants and understandably needs to be updated in the optimal use of technology.

Noted as the strength in the delivery of the program, is the course FIC who should make bigger strides to effect better program delivery. Being rated as *very good* as indicated for program delivery components, implies that the course FICs have to be honed on the job of ODL, putting in more time to harness their potentials to fulfill the standards of excellence in the delivery of quality education.

RECOMMENDATIONS

1. In planning the program delivery components, the course FIC should primarily take into consideration the stages of development of the learner. In the case of UPOU where most of the students are professionals, the FIC should attend to the needs of the adult learner for well-organized online activities; for reduction of anxiety in their study; relevant activities for participation considering the affective, cognitive, and the motor skills of the learner; prompt feedback; and application of learning in the work place and the real world.
2. The skills of the course FIC and the tutors especially those who are not so technologically savvy should continually be guided and polished so as to optimize utilization of the student portal.
3. Policies to ensure regularity of meeting classes online and other engagements i.e. utilization of mobile and social media should be developed or refined.
4. Students expect prompt reply or appreciate to receive feedback immediately to assignments/tests and other queries including their academic status in class. Thus, course FIC should make their social presence online be felt by responding promptly to students queries and by giving assessment results.
5. This study needs to be expanded to cover not only recent SEF data, but also an assessment of the responsiveness of FICs in responding to the evaluation results.

Finally, it should be noted that evaluation stands as report or information and as incentive. It is a report or information because it keeps tab of the student and FIC performance. It should be viewed as an activity meant for helping and reinforcing appropriate behavior. The findings provides conditions for satisfying present needs and coping with the demands as well as being able to meet future needs. It also becomes an incentive for FIC when they get promoted. It challenges all concerned how to keep on striving in the phase of growth.

Continuous evaluation of program course delivery and faculty-in charge (SEF) is an exercise that stimulates quality assurance, a commitment of the University to the maintenance of academic excellence as manifested by quality teaching and learning.

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Inquiry Based Science Education Application In Organic Chemistry

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ABSTRACT
In the recent years, several international studies have been implemented monitoring knowledge, skills and interest of students in science subjects. It is a well-known fact that their interest in these subjects, including chemistry, is on the decline. The reason is that the students have problems with the formulation of hypotheses, with experimental activities and interpretation of data. They often learn the individual facts without understanding their substance and principles. This contribution starts by short characterization of Inquiry Based Science Education and shows the importance of its implementation in the chemistry education as one possibility of resolving these problems. Then we analyse thematic units of chemistry curriculum, which are suitable for processing by IBSE. Some selected tasks of the organic chemistry curriculum are also presented in the paper and described their implementation.

INTRODUCTION
The science education, both in Czech Republic and in Europe, has been going through a kind of crisis in the recent years, a crisis that shows itself mostly in the decline of the young people's interest in scientific subjects (Rocard et al., 2007). The development of science literacy is currently understood to be an important goal the students should aim for, even during the chemical education. The scientific literacy is defined, for example in the PISA (Programme for International Student Assessment) research, as the ability to make use of scientific knowledge, to ask questions and to derive from the given facts conclusions that lead to understanding the world of nature and help with decisions related to it and to the changes caused by the human activity. The 2006 PISA research showed that Czech students possess vast amount of scientific facts and theories but have problems with thinking about problems on their own, analysing them at an adequate mental level including hypothesis making, seeking and suggesting possible solutions, interpretation of the data gathered and formulation and argumentation of conclusions. According to the PISA 2009 research results, our students are less successful in solving science problems related to the application of scientific knowledge (Czesaná et al., 2009). It was confirmed that our students are used to remembering complete facts but if they encounter a task type where they are not told the right procedure, they prefer to skip such task. Despite relatively good average results of our students in the international PISA research it's still true that their higher level of knowledge is in contrast to the low level of their practical skills.

INQUIRY BASED SCIENCE EDUCATION
Inquiry Based Science Education (IBSE) is an educational approach based on the students' own inquiry which uses many activising methods (Čtrnáctová, Čížková, 2010). Educational approaches with names like "problem/project teaching", "cooperative teaching", "activising teaching" or "experience pedagogy" all contain elements of IBSE. Vališová defines one of the practical activity methods similar to IBSE: Heuristic laboratory work allows the students, via problem solving tasks, to discover new facts and relations, to experiment, to seek new knowledge and subsequently acquire it (2011, p. 207). Stuchlíková as well discusses the origins of the inquiry form in the pedagogical context. According to her, so-called "inquiry" has been already connected with many famous names in teaching support, listing among others J. Dewey, L. S. Vygotsky, or M. Liman. However, the primacy of its use in pedagogical context is usually ascribed to J. R. Suchman who described so-called "contrary situations" which cause the desire to get to the gist of things which is the base of inquiry (2010, p. 130).

Nezvalová (2010) compares Inquiry Based Science Education with the traditional concept of teaching. She says that the traditional education doesn't make use of the natural process of understanding the world around us by discovery, but is based on perception of finished-form facts and memorization by repetition. The students are not generally expected to ask too many questions. The students usually answer teacher's question which lead mostly to the memorization of the contents passed to them. However, memorization of facts is not an important skill in today's world. Facts and information are easily accessible to all. It's the skill to understand these facts and information that should gain prominence. In the same way, the skill to use these data and make sense of them is also important.

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What advantage could therefore Inquiry Based Science Education have for the students? One of them is gathering necessary skills – we strongly focus on this – but there's also understanding of the inquiry process as such. In the relation to the teaching process, Inquiry Based Science Education is considered a form of teaching based on the students themselves asking questions and seeking the answers to them. The students research the problems they are given, they form the hypotheses, they suggest experiments to verify them, and they subsequently discuss the conclusions. An old Chinese proverb says: "*Tell me and I will forget, show me and I will remember, engage me and I will understand*." The last part of this saying expresses, in a way, the essence of Inquiry Based Science Education. If the student is engaged in discovering new facts, it will lead to the understanding of these facts (Nezvalová 2010).

The aforementioned problem teaching or cooperative teaching have already found their place in the education process. At the moment, inclusion of Inquiry Based Science Education might be demanding for the teachers, as it requires comprehensive preparation and a slightly different and demanding approach to the students during the lessons in order to make the lesson go the way it shouls.

ROLE OF THE TEACHER IN INQUIRY BASED SCIENCE EDUCATION:

The teacher reflects the intents and plans the Inquiry Based Science Education:

- The teacher plans the methods in such way that every student actively participates in the learning process;
- The teacher has necessary skills and knowledge related to Inquiry Based Science Education;
- The teacher supports the student's growing responsibility for the learning process;
- The teacher is ready for unexpected student questions or suggestions;
- The teacher prepares the necessary materials, tools and resources for the students.

The teacher facilitates the students' learning:

- The teacher understands that the learning process is also a part of the teaching;
- The teacher asks questions that support divergent thoughts and lead to further questions;
- The teacher resolves the questions and eventual misconceptions;
- The teacher watches to see if the students have any problems with learning;
- The teacher evaluates the progress of the student's learning.

CREATION OF EDUCATIONAL MATERIAL

The gradual acquisition and exercising of student skills necessary for inquiry is one of the conditions for using the new method during lessons. It is clear that every single phase of this type of teaching requires training of the specific student skills, special preparation of the teacher, and therefore enough time. Another condition for the practical realization of this teaching process is to have suitable teaching materials. The main aim when making materials for more or less independent student work is to focus both on the independence and on the joy of learning. In practice, this means to not try assigning further new themes into the teaching contents but to work with the known ones. However, the students will, through new skills, gradually achieve certain authority independence and they will learn the best way to treat the known themes and how to conduct themselves when solving a new problem (Čtrnáctová, Mokrejšová, 2013; Čtrnáctová et al., 2013).

There are currently no textbooks created according to the principles of IBSE available in the Czech Republic, but inspiration can be found even in the current textbooks. In many cases, just a small modification of problem from textbook not created according to the principles of IBSE is enough to allow the students to develop the necessary skills.

What themes would be therefore appropriate to teach using IBSE? Currently, teaching is guided by frame educational programmes and school education programmes of the individual schools. These documents are very brief, and so most of the teachers respect the content in the textbooks and focus mainly on making the students acknowledged with the facts, definitions or laws that can be found there. The students are then deprived of understanding and context because of the individual facts (Čtrnáctová, Mokrejšová, 2013).

To illustrate, we show teaching content of organic chemistry, including expected outputs of the students (RVP G 2007):

Expected outputs:
The student will:

b) evaluate the properties of the carbon atom that are important for the structure of organic compounds
c) apply rules of the organic chemistry systematic nomenclature when describing the compounds; use of trivial names is possible
d) characterize the basic groups of organic compounds and their important representatives, evaluate their raw material sources, their practical use and their effect on the environment
e) apply the knowledge about the course of organic reaction to specific examples
f) use the knowledge of the basics of qualitative and quantitative analysis to understand their practical importance

Teaching content:

- hydrocarbons and their classification
- hydrocarbon derivates and their classification
- heterocyclic compounds
- synthetical macromolecular substances
- medicines, pesticides, colourings and detergents

Themes chosen as suitable for processing problems from the organic chemistry content via the IBSE method were those that cause problems for students in the traditional teaching or those that are current and focused on applications in everyday life. Currently, we have chosen cca 8 themes which will be gradually processed. An example of the first kind of theme is the structure of organic compounds and their isomery. The students can acknowledge themselves with various types of isomery in practice and with help of models of organic compounds. They themselves will find out how many distinct isomers of a particular organic compound can exist, how the various isomers differ spatially etc. An example of the second kind of theme are alcohols. The motivational part focuses on obtaining alcohol via sugar fermentation and on determining physical, chemical and biological properties of the most important representatives of the alcohol group.

TOMATO JUICE RAINBOW – AN EXAMPLE OF A PROBLEM

We shall show the description of students' activity during Inquiry Based Science Education with the problem *Tomato Juice Rainbow*. The structure of the problem is based on the five-stage 5E learning cycle (Čtrnáctová, Mokrejšová, 2013). It is meant for introduction of the organic chemistry content at upper secondary level and should be thematically included after teaching about alkanes. In the first phase, so-called "engagement phase", it is necessary to awaken the students' interest and curiosity and to lead them to research the set problems. The teacher motivates the students by showing them an interesting experiment. In front of the students' eyes, the teacher mixes bromine water with tomato juice, conjuring an unusual rainbow-colored solution out of these two ingredients.

During the exploration phase, the students themselves start to gather information about a given problem. They find answers to the questions they were asked through completing the tasks. As part of this particular problem, they will fill in their knowledge about alkanes, which they already know, but also about alkenes, which they are supposed to get acquainted with. They are able to derive the information, and thus fill in the solution of the given problems, with their existing knowledge about alkanes. As they are finding out the answers, they come up with further questions and ideas that push them forward in solving the problem. One of the further tasks is to create some models from each hydrocarbon groups, for example ethane and ethylene, or propane and propylene- Thanks to this step they will be able to better compare the structure of alkanes and alkenes. They will also search for the molecule of lycopene, a compound present in tomato juice, build its model and find that it belongs to the alkene group. This will allow them to derive its properties, probably including the fact that it should be susceptible to additions. Based on all acquired information, they will attempt to make a hypothesis about what happened in the motivational experiment. They will plan a procedure for confirming their hypothesis. The students should realize that they have to make the representatives of both alkanes and alkenes react with the bromine water. If they don't realize this on their own, the teacher should give them a hint to use for example hexane and cyclohexene (available in the school lab) in the reaction. The students will carefully observe the course of the experiment and measure and record data.

In the explain phase, the students evaluate their results; they express them in a form of table etc. They shouldn't be afraid to reevaluate their original conjectures on the basis of newly acquired experience. The last-but-one step of this teaching process is the extend phase. Students shall, together with the teacher, summarize the information they learned about a new group of hydrocarbons. They use their own words to express how they understood the terms they encountered during the inquiry process. In the end, the work of the whole team is evaluated, both positive and negative parts. Because of that, they will be able to avoid some mistakes during the next inquiry and continue more effectively.

CONCLUSIONS

This contribution has described Inquiry Based Science Education as one of the possibilities to interest the students in scientific subjects and develop their chemical knowledge, skills and abilities. The inquiry based problems from organic chemistry were characterized and the students' activity with a specific alkene-related problem was described in detail. Since we are completely surrounded by nature and we see many biological, physical and chemical processes happening on a daily basis, we should aim to pull the students into the teaching process as much as possible in order to have them learn as much as possible about it. The intensifying of the interest in scientific subjects could be achieved through new creation of interesting problems and through the implementation of Inquiry Based Science Education into chemistry education at primary and secondary schools.

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Investigation Of The Factors That Affect The Success And Satisfaction Of The Students In Distance Education: Sample Of Sakarya University

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ABSTRACT
As an alternative for face-to-face education (F2F), distance education models are becoming prevalent rapidly nowadays. Internet-based learning is one of the most important parts of Distance Education. Internet-based Distance Education can be briefly defined as a sort of education system which teachers and students can actualize without sharing the same place. This education model is student-centered. In this model, the students are able to learn the lessons given independently from time and space, and able to communicate with the teacher via different means of technology. There are lots of factors affecting the performance of the student positively or negatively in Internet-Based distance education. The success of the students and quality of the provided education can be enhanced by determining which of these factors are dominant.
In this study, we tried to determine the factors which affect the success and satisfaction of the students in Sakarya University Faculty of Management Distance Education. Structural Equation Modeling is utilized to analyse structural relationships.

Key Words: Internet, Internet-based distance education, the factors, success, Structural Equation Modeling

INTRODUCTION

Without a shadow of doubt, education plays a very important role in the development of nations. Education level of the individuals has been the determinant factor which caused civilizations to disappear or allowed civilizations to have ostentatious times. Diverse attitudes and methods in education affected education positively or negatively. There have always been relentless studies in the field and still there are abundant numbers of studies. Technological innovations and inventions in education outclass the previous system and cause new concepts to ensue. Among these innovations, *Distance Education* is in the forefront. Written and printed resources, which were the basic of the classical education, turned into the sources which are easily reached, copied and distributed by anyone thanks to distance education making them accessible via electronic devices. With the integration of the computer-assisted systems to the aforementioned acquisitions, as a result of the fact that multimedia devices and techniques are utilized, educational content is easily accessed quickly with reasonable costs via the Internet and user interaction is increased with the help of new technologies. Distance Education seems to replace classical education nowadays and be considered as a model that supports the classical education.

Technological development caused different concepts to be used in education process. *Internet-based Education, Distance education and Lifelong Learning Program* started to be used frequently as a result of the developments in technology. Web-based education, provided via the Internet, started to be used as an education method in education institutions and many companies. (Khan,2001; Palloff & Pratt, 2001)

It is thought that in web-based distance education models, accessibility, easiness and simplicity of the web-site, consistency between its pages may all contribute to the success of the student. Therefore, it is expected that there is a direct relation between the success of the students and website facilities. Since Web pages have a link to audio and video tools, interactive facilities (conversation, video conference etc.), communication tools (e-mail, list and news group) and other web pages, all these services can be used without any restriction when preparing educational materials. (Yiğit et all, 2000).

Education is defined as a whole of process through which people achieve permanent changes in their mind and behaviors. That is because people achieve new behaviors incessantly. These new behaviors either remove the older behaviors or cause them develop (İşman, 2005, p.48). "Education is a social period that includes a controlled and intentionally chosen environment in order to provide personal development in the most convenient level (Tezcan, 1996). "Education is a social process including an elite and controlled environment and school activities to provide development in the person's social skills and to get optimum personal development (Varış, 1978). In this description, the design of the education-teaching environment and individual development are in the foreground most. Education is the process through which terminal behavioral changes in the person's behaviors are intentionally achieved by self-experiences (Ertürk, 1972, p.12). In this description, the plan and willingness is the most important components. Student ought to learn by self-experience and make intentional changes in himself.

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Education is a behavioral improvement and skill, attitude, information gaining process (Alkan, 1997). This description mostly focuses on a student's learning new things and improving himself. Education, with the most common meaning, is a process of growing people up with a specific purpose (Fidan and Erden, 1991). In this description, education is considered as bringing children up according to some target behaviors which have been previously decided. Education is a series of planned actions to provide some certain developments in people's behaviors in accordance with some predetermined principles (Oğuzkan, 1974). This definition focuses on teaching students some predetermined behaviors. Education is the mental development of a person (Bruner, 1964). This description is to some extend different from the others. In this, specific destinations and behaviors represent just the mental development of the student. This development could be affected by social, individual or theoretical basis.

THE STUDY

The purpose of this study is to find out how the students enrolled in the post graduate E-Management program perceive the platform through which they are educated, and to find what factors affect- negatively or positively- their satisfaction and success considering their final grades taken from the Student Affairs database and the logging information of the platform they use.

Since distance education models are getting prevalent quickly in our country, the factors which have negative or positive effects on the academic success and the satisfactions of the students in these programs have been subject of many research and studies.

Contribution of the Study

Nowadays in our country, *Distance and Blended education* are considered as a third education system in the institutions providing Master's degree education. The *Internet*, which is a part of this system, has attracted the attention of universities and become the most preferred way of reaching a mass of population. Using the Internet systematically and suitably in accordance with some particular strategies is going to improve the quality of education and help realize better learning activities.

In this research, web portal, local Internet access technologies, class attendance and social conditions of the students in E-BUSINESS programs are searched together with the availability level of the web portal through which they have been taking their courses and its contribution to their success, and it is hoped that the results will be beneficial for the institutions which plan to provide distance-education in the future.

In this study, the web portals of distance education and websites redesigned and developed in accordance with the opinions of students will also make teaching and learning activities more effective and efficient. So, the future of the system is important in terms of the realization of the students' success and satisfaction.

Statistical Methods for the Study

The factor analysis of the scale has been done in the research. In order to demonstrate the distribution of answers to the demographic questions, Frequency Distribution Analysis has been applied using SPSS software. The *t-test* and *ANOVA test* were used to reveal the difference between different demographic groups' perceptions of the factors that affect their success. To find out the relation between the factors, and to check the correlation and regression, *Structural Equation Modeling* was used.

Study group

The study group consists of the students enrolled at Sakarya University Distance Education department. In this study, a questionnaire was applied to 300 students using data collection method over the Internet. 279 students returned their responses to the researchers.

Research Questionnaire

In this research, students have been consulted on the factors affecting their success positively or negatively. Data collection tool used in the study was developed by the researchers examining the literature and the factors affecting the student success were examined in four dimensions. In the *content* dimension of the scale, questions about demographic structure and features of the students were asked. The students were consulted on by asking 5 questions about the *design* as the first factor, 6 questions about *navigation* as the second factor, 6 questions about *presentation* as the third factor and 8 questions about *pedagogy* as the fourth factor of this dimension.

In the *platform* dimension of the scale, the students were consulted on by asking 6 questions about technology in the first, 7 questions about features in the second, 6 questions about availability in the third factor of this dimension.

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Students were also consulted on their behaviors of E-learning platform usage regarding the following situation:

Of the student;

• the number of access per semester,

• the number of forum participation,

• the number of attendance to the courses,

• the number of attendance to the live courses,

• the number of questions they asked to their instructors,

• the number of questions they asked to the administration,

Of the lecturers;

• the number of answers to students,

• the number of responses given by the administration to the students,

• the number of lecturer participation in student forums

• the number of managerial support to the students.

The *interest* dimension of the scale was created using the data taken from the platform diary showing the behaviors of students, academics and administrative staff and after applying some statistical calculations the data was converted into a seven-point *Likert* scale which was also used in the other dimensions.

In terms of student success, grade-point averages of the students were taken from the Student Affairs database and converted into 100 point grading system so that they become usable in the analysis.

In order to find out the satisfaction (or dissatisfaction) of the students about the platform use, they were asked 6 questions to measure their perceptions of satisfaction.

Research Data

The data used in this study were obtained from the log file of website, Student Affairs database and the students in person. Research questionnaire was filled out by 279 students via the Internet in the 2013-2014 academic year. The questionnaire consists of questions such as gender, age of the student, department which the student graduated form, students' employment status, students' number of access to the Internet on a weekly basis and students' computer experience. In dimensions part, the questionnaire consists of questions which can be answered in a seven-point *Likert* scale that ranges from *I totally agree* to *I totally disagree*.

The hypothesis of the research

Hypothesis of the research are listed below;

Hypothesis of the Model

H1: Student perception of the content has an effect on student achievement.

H2: Student perception of the content has an effect on student satisfaction.

H3: Student perception of the Platform (Site) is effective on student achievement.

H4: Student perception of the Platform (Site) is effective on student satisfaction.

H5: Student's interest and Management's concern both have an effect on student success.

H6: Attention of the student and management both have an effect on students' satisfaction.

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H7: Student's academic achievement has an impact on student satisfaction.

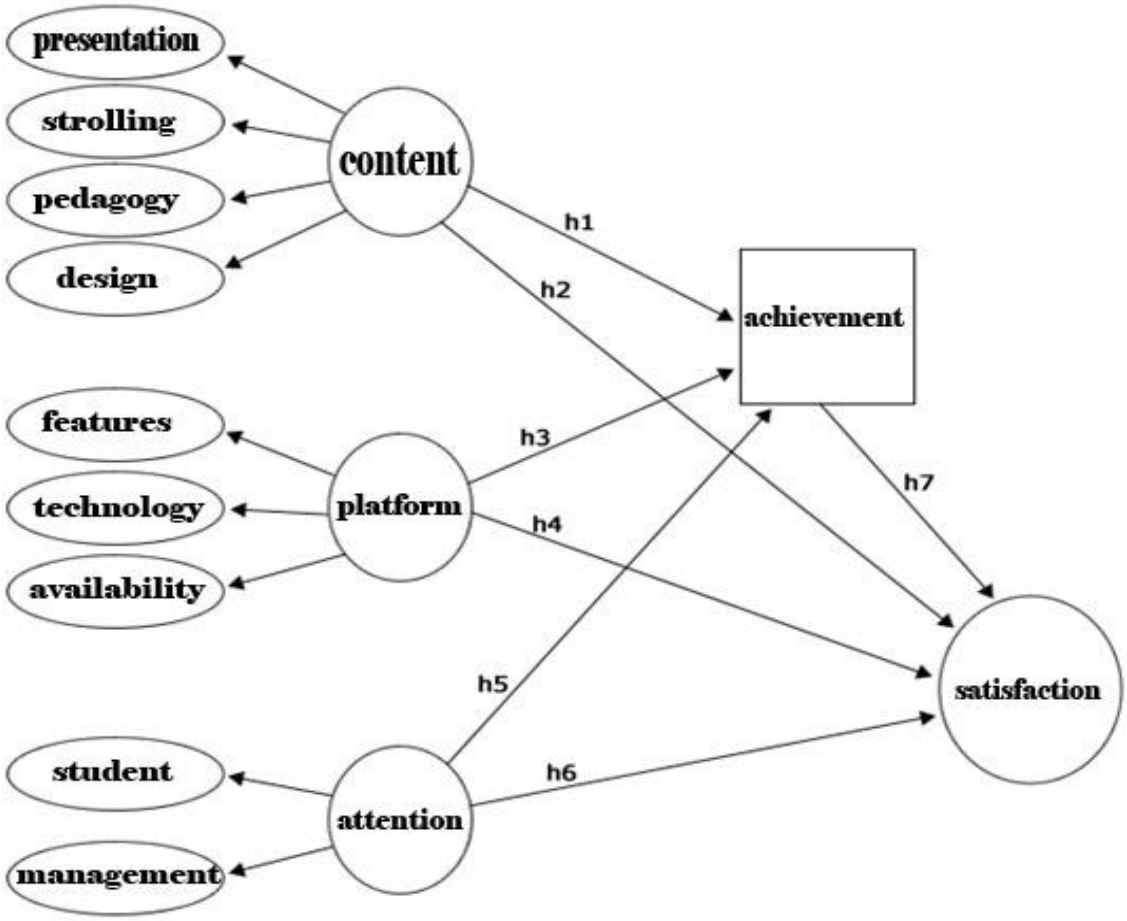

Figure 1: Research Hypothesis (Conceptual Model)

Data Analysis

Under the heading of Descriptive Statistics, demographic characteristics of students, students' views on LMS (Learning Management System), the students' interests from LMS log and students' academic achievements at the end of academic year from the database of Student Affairs are considered.

Reliability and validity analyses of the results obtained from Explanatory and Confirmatory Factor Analyses are presented in the evaluation process of the structural model. The final measurement model and structural equation modeling are discussed at the end of the chapter.

Demographic Features of the Participants

Frequencies of the demographic features of the students who answered the questionnaire are shown in Table 1.

Table 1: Frequency Analysis of Demographic Features of the Participants

Demographic Features of The Participants		**Frequency**	**%**
Gender	**Female**	72	25
	Male	207	75
	Total	279	100
Faculty	**Business-Economics**	187	67
	Engineering	9	3
	Science and Literature	56	20
	Other	27	10
	Total	279	100
Employment Status	**Employed**	247	88
	Unemployed	32	12
	Total	279	100

According to the frequency analysis, it has been observed that 72(25%) of the participants are female and 207(75%) are male.

Frequency analysis according to faculties of participants shows that 187(67%) of the participants are from the School of Economics, 9(3%) are from Engineering Faculty, 56(20%) are from the Faculty of Science and Literature and 27(10%) are from other faculties.

When the occupations of the participants are taken into consideration, it has been observed that 247(88%) are employed and 32(12%) are unemployed.

Scale Analysis

Results of (EFA) Explanatory Factor Analysis of the scale are shown below.

As can be seen in Table-3 and Table-5, EFA values are in convenient limits(Cronbach's Alpha). Results of KMO and Bartlett Sphericity Tests in Table-2 and Table-4 are observed in acceptable values.

Table 2: KMO and Bartlett Sphericity Test Results

KMO Sample Proficiency Test		,862
Bartlett's Sphericity test	Ki Square	7841,496
	sd	351
	Sig.	,000

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Factor Analysis of Content Dimension

Table 3: Factor Analysis of Content dimension

Cronbach's Alpha	0,845			
	0,829	0,937	0,928	0,840
Ped3	,755			
Ped1	,745			
Ped2	,710			
Ped8	,687			
Ped4	,662			
Ped7	,649			
Ped5	,631			
Ped6	,619			
Sun3		,820		
Sun5		,797		
Sun6		,791		
Sun1		,764		
Sun4		,711		
Sun2		,605		
Gez2			,845	
Gez4			,768	
Gez6			,752	
Gez3			,730	
Gez1			,709	
Gez5			,668	
Tas2				,882
Tas1				,803
Tas5				,757
Tas4				,672
Tas3				,554

Table 4:KMO and Bartlett Sphericity Test Results

KMO Sample Proficiency Test Results		**,913**
Bartlett's SphericityTest	Ki Square	5397,397
	sd	153
	Sig.	,000

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Factor Analysis of Platform Dimension

Table 5: Factor Analysis of Platform Dimension

Cronbach's Alpha	0,901		
	0,849	0,837	0,719
Özel2	,870		
Özel7	,869		
Özel4	,849		
Özel6	,846		
Özel5	,824		
Özel3	,673		
Özel1	,615		
Kul1		,817	
Kul6		,804	
Kul3		,665	
Kul4		,646	
Kul5		,578	
Kul2		,489	
Tek2			,673
Tek4			,646
Tek5			,617
Tek6			,580
Tek3			,523
Tek 1			,457

Main Hypothesis Analysis (Conceptual Framework)

Having observed the desired results from Confirmatory Factor Analysis and Reliability Analysis of each factor and scale model enables the structural equality model to be formed considering the conceptual framework. In Figure 2, the relations between the main model and variables can be seen.

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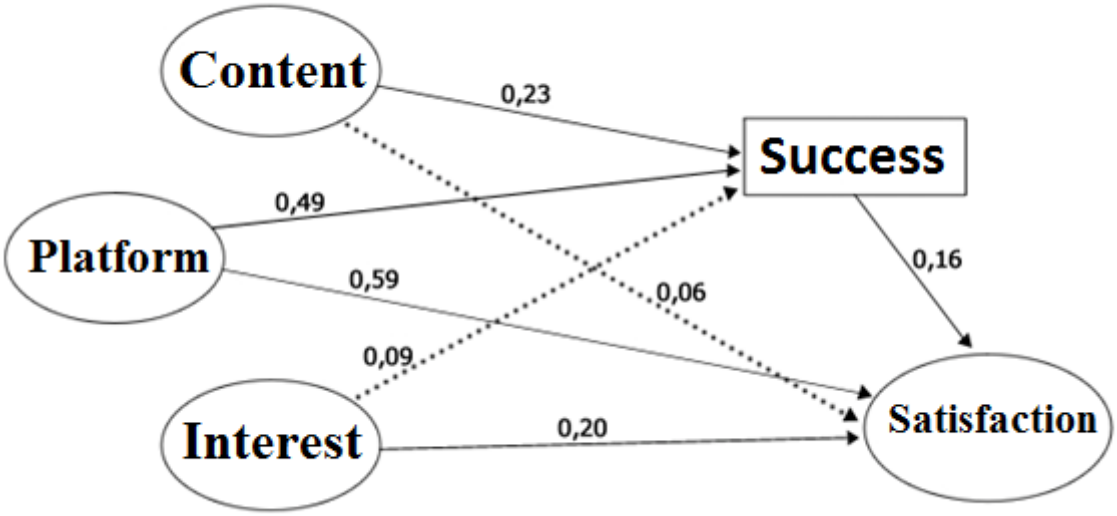

Figure 2: Main Hypothesis Analysis

p<0,001

Dependant Variables	R^2
Success	,64
Satisfaction	,59

Compliance Indices with the Main Model

Table 7: Compliance Indices with the Main Model

Main Model	Compliance Indices					
	χ^2/df	GFI	AGFI	TLI	CFI	RMSEA
	11.7/ 2,1=5.1	,984	,882	,929	,986	,090

According to values from the main model, compliance indices (Table 7) give a good consistency. With reference to the model in Figure 2, it is observed that the factors of platform (0.49), content (0.23), and interest (0.09) have a positive impact on student success. So that, the most powerful factor in the model to explain success is "platform" whereas the weakest factor is "interest". Since the effect of "interest" is <0.1 though being positive, it can be said that ratio of the influence is not within the desired limits. However, it is investigated that the platform (0.49), interest (0.20), and content (0.06) factors have a positive impact on student satisfaction. Therefore, the most powerful factor in the model to explain success is "platform" while the weakest one is "content". Since the effect of "interest" is<0.1 though being positive, it can be said that ratio of the influence is not within the desired limits. It is found that success effects satisfaction (0,16). In this regard, the research hypotheses **H1, H3, H4, H6** and **H7**shown in Figure 1 are confirmed. However, the research hypotheses **H2** and **H5** are not verified.

RESULTS AND RECOMMENDATIONS

In this study, a satisfaction model for the distance education platform (LMS- Learning Management System) is developed by using the perspective of information systems in the creation of conceptual structure. After reviewing the literature, a questionnaire is prepared and applied to the students and a two-dimensional scale is used in this model. The first dimension is "content" (presentation, navigation, design, pedagogy); the second is "platform" (technology, features, usability). Students'perception of satisfaction is also measured by the questionnaire. At the same time, the main model is created based on the model above with the help of students' grade point average taken from the Student Affairs database and student and academic staff behaviours taken from the platform logs.

It can be seen in the study findings that platform's overall structure and student behaviours on the site affect the perception of success and satisfaction.

Navigation factor in content dimension of the model is seen as the dimension with the highest descriptive value (satisfaction1,2; success 0,47)in this dimension. When questions in navigation factor are examined, having site maps, short page loading time and content related images affect what students perceive in a positive way in the presentation of the content.

Presentation factor in content dimension model is seen as the second highest descriptive value (Success 0.64) in terms of success in this dimension; when it is analyzed in terms of satisfaction, pedagogical factor is seen as having the second highest value. When expressions that constitute these factors are analyzed, in the presentation of the material presented to students, it can be said that the using content, based on animation and simulation, increases the success.

Technological tools factor in platform dimension model seems to have high descriptive values in this dimension (Satisfaction, 1.93, Success 2.22). When these factors are deeply examined, it is observed that interactive sections of the site together with modern and dynamic platform design, fast loading, and synchronous and asynchronous education systems have positive impact on students' understanding the lesson.

Specifications factor in platform dimension model has the second highest descriptive value in terms of success in this dimension (Success 0.12); use factor is seen as having the second highest value in terms of satisfaction. When the expressions that constitute these factors are analyzed, we can say that students enjoy using LMS, they do not realize how the time passes during the learning process and they have a perception of feeling themselves happy.

Student factor in interest dimension model is seen as having the highest value in this dimension (Satisfaction, 1.16 Achievement 0.19). When student factor is deeply analyzed, it can be said that the number of forum participation, the number of questions the students ask and the number of course attendance increase satisfaction.

It is seen that platform dimension has the highest descriptive value (Satisfaction, 0.59, Success 0.49) and content dimension has the second highest descriptive value (success 0, 23) in the main model. Trainers and students have the third highest descriptive value (pleasure, 0,20) in the main model. According to these results, it can be said that in terms of student perception, platform is the strongest, content is the second strongest and attention is the third dimension. It is seen that technology is the strongest among the sub dimensions of platform dimension. In this dimension, it can be said that fast loading and synchronous and asynchronous education systems are distinctive factors while student-teacher interaction is a strengthening factor.

It is parallel with some research results in literature that students consider visual elements as a crucial factor that affects their satisfaction of the platform on which the education is provided. For instance, according to Szymanski and Hise (2000) visual elements that are used to design websites are very effective on student satisfaction, and Anand (2007) considers up-to-date information, design and page setup to be parts of website designing and observed that they enhance satisfaction.

RECOMMENDATIONS

In the web pages that undertook the task of interface, implementing educational and visual design should be taken into consideration as well as having interactive and dynamic structure.

Providing simultaneous and variant time communication opportunities through web technologies in distance education is important. While designing *LMS*, characteristics of the target group and the technical infrastructure used by the administrator and the students should be taken into consideration.

In distance education through web technologies, students should be led to collaborative cooperation in learning-centred activities and helped to develop a sense of belonging to a group.

Students should be led to participate in newsgroups and discussion list that develop learners' cognitive and affective competence because utilized internet environment and devices in distance education through web technologies make contribution to learning by doing, presenting information and retaining knowledge.

Increasing the percentages of the exams conducted through the Internet can be suggested in order to lead universities to get learners exercise more effectively via internet.

Upcoming studies about designing learning environments in distance education through web technologies can be put into practice by taking different learning theories into consideration.

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While designing learning environment in distance education through web technologies, cooperative learning environments should be created to provide interaction between students.

In distance education through web technologies, students should be provided with opportunities to work cooperatively while solving a problem or studying on a task.

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Investigation Of The Relationship Between Critical Thinking Disposition And Study Approaches Of Teacher Candidates

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ABSTRACT

This study aims the investigating the relationship between critical thinking dispositions and study process of teacher candidates. In this study, quantitative research method and relational screening model has been used. The population of this study is formed by 325 teacher candidates from departments of science and elementary school education at Education Faculty. For research a three fold form has been created. In the first part some demogrfic data have been collected. Second part includes "The California Critical Thinking Disposition Inventory (CCTDI-R)" which is improved by Facione, Facione and Giancarlo (1998) and adapted to Turkish by Kökdemir (2003). Third part includes "Study Process Questionnaire (SPQ)" revised by Biggs, Kember, Leung (2001), adapted in Turkish by Yılmaz and Orhan (2011). In order to analyze the data, SPSS 16.00, ANOVA, independent t-test, Pearson correlation coefficient techniques are used. As a result of Pearson Multiplication Momentum Correlation Analysis, conducted to define the relations between the SPQ scale factors and CCTDI-R scale and factors; SPQ scale Profound Approach factor score and CCTDI-R scale score, Analyticity, Inquisitiveness, Self-Confidence, Truth-Seeking, Systemacity factors scores have a significant positive relation while SPQ scale Superficial Approach factor score and CCTDI-R scale and all factors have a significant negative relation.

Keywords: Critical Thinking Abilities, Study Approach, Profoundly Learning, Superficial Learning.

INTRODUCTION

In today's world, we are all bombarded with information load. We come across new situations and incidents almost every day (Browne and Keeley, 2001). What reaction today's people will give to the things they see and hear is a big problem in terms of this information overload. One of the solutions for this problem can include accepting new information and thoughts, not questioning them and receiving people's opinions as they are. Another one is to create one's own point of view and ideas by asking the right questions for the new information and ideas. This is a harder and longer process than the other for an individual as he has to struggle more. This process is "critical thinking" process.

Critical thinking is a way of thinking in which an individual uses scientific method, questions, and creates his own ideas in the end. Critical thinking includes logical reasoning. Logical reasoning ability improves throughout life and information (learning) and experience are needed for it to improve (Alloway and Weisbrodt, 1989). A person who thinks critically can ask necessary questions, collect suitable information (data), classify (separate) this information effectively (productively) and creatively, think logically under the light of that information, come to reliable and certain (dependable) results and act successfully. Critical thinking can also be taken as the application-adaptation of scientific method to daily life (Schafersman, 1991).

Goscik (1997) listed the elements of critical thinking as observation, phenomenon, drawing conclusions, guesses, opinions, inferences and critical analysis. Elder and Paul (2001) defined critical thinking as the way of thinking with notions. Critical thinking includes "asking the right questions" (Browne and Keeley, 2001). Cüceloğlu (1997) states that critical thinking is based on usual thinking processes and an individual should follow three steps to gain critical thinking ability by improving himself: 1. One should have the awareness of thinking process. 2. He should have the ability to observe other people's thinking processes. 3. He should apply what he learns in his daily life. According to Özden (2003) critical thinking is an active and organized cognitive process which aims us to understand ourselves first and then incidents, situations and opinions around us by applying what we have learnt with an awareness of our own ideas and keeping other people's ideas in mind. Critical thinking is defined as a process of evaluating, problem solving and intellectual development. Çelikkaya (2012) defines critical thinking as a process that requires using high level cognitive skills such as analysis, synthesis and evaluation while deciding whether a statement is true or false.

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Experts agree that critical thinking can be taught but methods used to teach it can vary. Programs aiming to develop critical thinking skills value students' individual ideas first and then it continues with activities that will activate high level thinking processes (Şahinel, 2002). It is stated that individuals who are inclined to think critically approach to situations with a systematic and analytical point of view, try to stay objective, has the curiosity to learn and keep being self-confident and open-minded (Facione and Facione, 1992; Tortop and Eker, 2013, op. cit. Evin Gencel, Güzel Candan, 2014).

Learning in which critical thinking process is also applied is a process of thinking. That is why, the more thinking skills there are in the learning process, the more permanent learning will be. In such a process studying is defined as using certain techniques to learn (Yıldırım, Doğanay and Türkoğlu, 2000). Students can learn to learn and learn effectively by both knowing his own characteristics of learning and using techniques used in learning (Özer, 1998). Learning to learn is learning to question truths and values around one's own and solve the problem. Teacher's use of effective teaching methods by creating suitable teaching and learning situations and student's having the habit of studying effectively are the things necessary for learning to occur (Demirezen, Akhan, 2013).

Research of the factors affecting students' academic success is highly important as it is an indicator of the quality of education and it guides changes in education policy (Alnabhan, Al-Zegoul & Harwell, 2001). Many factors can affect students' academic success in a positive or negative way (Ulusoy, Güngör & Akyol, 2004). Motivation and studying at school is very important for intended change of behavior (Eryılmaz, Ercan, 2014). One of the factors affecting students' academic success is studying skills (Erdamar Koç, 2010; Temelli & Kurt, 2010; İlhan, Çetin, Öner-Sünkür, Yılmaz, 2013).

Studying is actually a process of problem solving. If the learner plans his work, organizes and evaluates it, he will have an idea about his route and this will increase his level of performance positively in such a process (Doğanay, Özdemir, 2011). In this term, studying approaches and critical thinking are related.

Students who prefer profound learning aim to understand, are interested in the structure of learning task, link theoretic ideas to their daily experiences, construct contents in their hands to form a meaningful unit. Profound learning approach is based on student's intention to search and form meaning while dealing with learning (Ramsden, 2000). On the other hand, superficial approach is based on external motivation or fear to fail. Least time and effort is spent to meet basic needs. Learning content by heart without making sense is mostly used strategy in superficial learning approach (Ozan, Çiftçi, 2013). Definitions of profound and superficial learning approaches argues that students who prefer profound learning makes more of quality in terms of learning when compared to those who prefer superficial learning (Topkaya, Yaka, Öğretmen, 2011). Individuals who adopt critical thinking also adopt profound learning approach.

OBJECTIVE OF THE RESEARCH

This study aims the investigating the relationship between critical thinking dispositions and study process of teacher candidates.

THE PROBLEM STATEMENT

Is there a connection between critical thinking dispositions and study process of teacher candidates?

SUB PROBLEMS

1. What are teacher candidates' critical thinking dispositions? How do teacher candidates' critical thinking dispositions vary according to the varieties of gender, department, grade, and graduated secondary school?

2. What are teacher candidates' study approaches? How do teacher candidates' study approaches vary according to the varieties of gender, department, grade, and graduated secondary school?

3 Is there a connection between critical thinking dispositions and study process of teacher candidates?

METHOD OF THE RESEARCH

In this study, quantitative research method and relational screening model has been used.

Model of the Research: Research model is relational screening. In this relational screening model in order to reach certain aims, the relation between special events are tried to be explained and the existence or the level of covariance between two or more variances are tried to be determined (Cohen, Manion and Morrison, 2000; Karasar, 2008).

Sample of the Research: The population of this study is formed by 325 teacher candidates from departments of science and elementary school education at Education Faculty. 157 of Students (48.3%) are from the department of Science, of 168 them (51.7%) are from the department of elementary school education, 271 of students (83.4%) are female and 54 of them (16.6%) are male.

DATA COLLECTION INSTRUMENTS

For research a three fold form has been created. In the first part personal data like the gender, department, grade, and graduated secondary school have been collected. Second part includes "The California Critical Thinking Disposition Inventory (CCTDI-R)" which is improved by Facione, Facione and Giancarlo (1998) and adapted to Turkish by Kökdemir (2003). Third part includes "Study Process Questionnaire (SPQ)" revised by Biggs, Kember, Leung (2001), adapted in Turkish by Yılmaz and Orhan (2011).

The California Critical Thinking Disposition Inventory (CCTDI-R)

As a data collection tool, The California Critical Thinking Disposition Inventory (CCTDI-R) was developed by Facione, Facione and Giancarlo (1998) and was translated and validated in Turkish by Kökdemir (2003) has been employed. Cronbach's alpha coefficient, which shows internal consistency for the dimensions of the CCTDI-R were calculated as .75 in analycity dimension, .75 in open-mindedness dimension, .78 in inquisitiveness dimension, .77 in self-confidence dimension, .61 in truth-seeking dimension, and .63 in systematicity dimension. Cronbach's alpha coefficient of the latest scale which was translated in Turkish by Kökdemir (2003) and has six dimensions and 51 items was calculated as .88. The scale was prepared as six – point Likert scale.Six-point Likert type scale shows "totally agree" option 6, "disagree" option 1 point. After dividing the number of questions the raw scores were multiplied by 10. In this way, the lowest value 10, and the highest value 60 standard scores are obtained.

Study Process Questionnaire (SPQ)

Study Process Questionnaire (SPQ) revised by Biggs, Kember, Leung (2001), adapted in Turkish by Yılmaz and Orhan (2011). It is developed in 1987 by Biggs, the pioneer of Study Process Questionnaire Scale which is adapted to Turkish language by Yılmaz & Orhan (2011). After that this scale was revised in 2011 and a new scale with 20 items two factors was developed. For each item, the options of 'very untrue of me or somewhat true of me (1)', 'somewhat true of me (2)', 'true of me in 50 per cent (3)', 'usually true of me (4)', 'true of me every time or almost every time (5)' were provided by using a 5 level Likert type scale for answering the questions in the scale (Biggs, Kember & Leung, 2001, quoted by Yılmaz & Orhan, 2011). In this sense, the score interval for deep and superficial approaches changes between 10 and 50. The student's learning approach changes according to which approach he gets higher point.

EVALUATION OF THE DATA

SPSS 16.00 is used to analyze the data. ANOVA, independent T-Test and Post-Hoc test techniques have been conducted to monitor the scores taken from the scales in terms of demographic varieties. PEARSON correlation coefficient analysis technique is applied in order to observe the relations between scales. In all statistical processes significance at a level of .05 has been seeked.

FINDINGS

The research findings are evaluated in the context of problems.

Problem 1. What are teacher candidates' critical thinking dispositions? How do teacher candidates' critical thinking dispositions vary according to the varieties of gender, department, grade, and graduated secondary school?

The sample of this study is formed by 325 students from science and elementary school education. In this study, the taken total The California Critical Thinking Disposition Inventory (CCTDI-R) scale score was calculated as 253.4492 (Table 1).

Table 1. Distribution of scores of students taken from CCTDI-R scale and the factors.

Scales		X	SD	SE
CCTDI-R Scale	Analyticity	43.2462	5.89944	.32724
	Open-Mindedness	39.1256	5.45731	.30272
	Inquisitiveness	43.2957	5.56399	.30863
	Self-Confidence	42.6066	6.05208	.33571
	Truth-Seeking	43.1341	6.81283	.37791
	Systemacity	42.0410	6.18544	.34311
CCTDI-R Scale Total		253.4492	27.92744	1.54914

As in table 2, as a result of independent group T-test applied to define whether the scores taken from the CCTDI-R scale and Analyticity, Truth-Seeking, Systemacity factors differentiate according to the gender variable; for the CCTDI-R scale total score and Analyticity, Truth-Seeking, Systemacity factor scores the difference between the

arithmetic average of the groups have been found statistically significant.Female students' score average is significantly higher than the Male students (p<.05).

Table 2. The results of Independent group T-test of the scores taken from CCTDI-R scale and factors according to the gender variable of students.

Scales		Group	N	X	SD	SE	T test		
							t	df	p
CCTDI-R Scale	Analyticity	Female	271	43.7343	5.75000	.34929	3.396	323	,001
		Male	54	40.7963	6.08239	.82771			
	Open-Mindedness	Female	271	39.3635	5.18507	.31497	1.507	66.704	,137
		Male	54	37.9321	6.58508	.89612			
	Inquisitiveness	Female	271	43.3743	5.45574	.33141	.570	323	,569
		Male	54	42.9012	6.11794	.83255			
	Self-Confidence	Female	271	42.8202	6.00757	.36493	1.428	323	,154
		Male	54	41.5344	6.21680	.84600			
	Truth-Seeking	Female	271	43.6795	6.58923	.40027	3.282	323	,001
		Male	54	40.3968	7.30762	.99444			
	Systemacity	Female	271	42.5953	5.93939	.36079	3.689	323	,000
		Male	54	39.2593	6.68760	.91007			
CCTDI-R Scale Total		Female	271	255,5672	26.91854	1.63518	3.103	323	.002
		Male	54	242,8201	30.63497	4.16889			

As seen in table 3; as a result of independent group T-test applied to define whether the scores taken from the CCTDI-R scale and factors differentiate according to the department variable; for the CCTDI-R scale total score and all factor scores the difference between the arithmetic average of the groups have been found to be insignificant statistically.

Table 3. The results of Independent group T-test to define whether the scores taken from CCTDI-R scale and factors differentiate according to the department variable of students.

Scales		Group	N	X	SD	SE	T test		
							t	df	p
CCTDI-R Scale	Analyticity	Science Education	157	43.7197	5.84175	.46622	1.401	323	,162
		Elementary School	168	42.8036	5.93605	.45798			
	Open-Mindedness	Science Education	157	38.8588	5.72494	.45690	-.852	323	,395
		Elementary School	168	39.3750	5.19957	.40116			
	Inquisitiveness	Science Education	157	43.6447	5.74855	.45878	1.093	323	,275
		Elementary School	168	42.9696	5.38253	.41527			
	Self-Confidence	Science Education	157	43.0209	5.64743	.45071	1.194	323	,233
		Elementary School	168	42.2194	6.39977	.49375			
	Truth-Seeking	Science Education	157	43.3940	6.70531	.53514	.664	323	,507
		Elementary School	168	42.8912	6.92297	.53412			
	Systemacity	Science Education	157	42.1762	6.34272	.50620	.380	323	,704
		Elementary School	168	41.9147	6.05101	.46685			
CCTDI-R Scale Total		Science Education	157	254,8144	28.10528	2.24305	.852	323	.395
		Elementary School	168	252,1734	27.78334	2.14353			

As a result of one-way analysis of variance (ANOVA) which is done in order to determine whether the scores taken from the CCTDI-R scale and factors show a significant difference according to the class variable; the difference between the arithmetic average of the group has been found to be insignificant statistically (Table 4).

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Table 4. The results of one-way analysis of variance (ANOVA) applied to define whether the scores taken from CCTDI-R scale and factors differentiate according to the grade variable of students.

N, X and SD Values					ANOVA Results					
Scales	**Group**	**N**	**X**	**SD**	**Var. K.**	**SS**	**df**	**MS**	**F**	**p**
Analyticity	1.Grade	103	43.5146	5.56576	Between	36.697	3	12.232	.349	.790
	2.Grade	84	43.5000	5.89568	Within	11239.611	321	35.014		
	3.Grade	65	42.6615	6.22815	Total	11276.308	324			
	4.Grade	73	43.0959	6.13769						
Open-Mindedness	1.Grade	103	39.6359	5.50879	Between	59.669	3	19.890	.666	.574
	2.Grade	84	39.2758	5.18690	Within	9589.784	321	29.875		
	3.Grade	65	38.6154	5.28748	Total	9649.453	324			
	4.Grade	73	38.6872	5.85959						
Inquisitiveness	1.Grade	103	43.7864	5.69846	Between	90.118	3	30.039	.970	.407
	2.Grade	84	42.6323	5.48084	Within	9940.286	321	30.967		
	3.Grade	65	42.8547	4.77895	Total	10030.405	324			
	4.Grade	73	43.7595	6.09321						
Self-Confidence	1.Grade	103	43.2039	6.09208	Between	75.284	3	25.095	.683	.563
	2.Grade	84	41.9388	5.43935	Within	11792.070	321	36.735		
	3.Grade	65	42.4835	5.58604	Total	11867.353	324			
	4.Grade	73	42.6419	7.02551						
Truth-Seeking	1.Grade	103	43.0652	7.32105	Between	53.444	3	17.815	.382	.766
	2.Grade	84	42.5680	6.06408	Within	14984.898	321	46.682		
	3.Grade	65	43.3407	6.44975	Total	15038.342	324			
	4.Grade	73	43.6986	7.26809						
Systemacity	1.Grade	103	42.5243	6.15196	Between	57.367	3	19.122	.497	.684
	2.Grade	84	41.6071	6.08643	Within	12338.752	321	38.438		
	3.Grade	65	42.3077	6.02867	Total	12396.120	324			
	4.Grade	73	41.6210	6.53795						
CCTDI-R Scale Total Score	1.Grade	103	255.7302	27.11442	Between	939.506	3	313.169	.399	.754
	2.Grade	84	251.5220	26.18838	Within	251761.588	321	784.304		
	3.Grade	65	252.2635	26.60578	Total	252701.094	324			
	4.Grade	73	253.5041	32.17671						

As seen in table 5 as a result of one-way analysis of variance (ANOVA) which is done in order to determine whether the CCTDI-R scale and factors show a significant difference according to the graduated secondary school variable; for scale total score and Analyticity factor score the difference between the arithmetic average of the group has been found statistically significant. Following this process Post-Hoc analysis techniques are started to be applied.

After one-way analysis of variance (ANOVA); to determine how changed in CCTDI-R scale and factors among sub-groups, considering the graduated secondary school variable, TUKEY test has been chosen from among the post-hoc analysis techniques; because of Analyticity factor and CCTDI-R Scale group variance are homogen according to the Levene's test (L=.732, L=.506, p>.05).As a result of this test it has been stated that, graduated anatolian high school students' score are significantly higher than graduated teacher high school students' score for Analyticity Factor and CCTDI-R Scale total score.

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Table 5. The results of one-way analysis of variance (ANOVA) applied to define whether the scores taken from CCTDI-R scale and factors differentiate according to the graduated secondary school variable of students. Factor

N, X and SD Values					ANOVA Results					
Scales	**Group**	**N**	**X**	**SD**	**Var. K.**	**SS**	**df**	**MS**	**F**	**p**
Analyticity	Public High School	128	43.3125	5.65094	Between	295.958	2	147.979		
	Anatolian High School	120	44.1833	5.87114	Within	10980.350	322	34.100	4.339	.014
	Teacher High School	77	41.6753	6.09452	Total	11276.308	324			
Open-Mindedness	Public High School	128	39.0299	5.59728	Between	143.996	2	71.998		
	Anatolian High School	120	39.8681	5.22598	Within	9505.457	322	29.520	2.439	.089
	Teacher High School	77	38.1277	5.47315	Total	9649.453	324			
Inquisitiveness	Public High School	128	43.1944	5.92720	Between	106.484	2	53.242		
	Anatolian High School	120	43.9444	5.35075	Within	9923.920	322	30.820	1.728	.179
	Teacher High School	77	42.4531	5.20015	Total	10030.405	324			
Self-Confidence	Public High School	128	42.6562	6.00962	Between	83.827	2	41.914		
	Anatolian High School	120	43.0952	5.74223	Within	11783.526	322	36.595	1.145	.319
	Teacher High School	77	41.7625	6.56250	Total	11867.353	324			
Truth-Seeking	Public High School	128	42.9129	7.05207	Between	170.482	2	85.241		
	Anatolian High School	120	44.0000	6.77593	Within	14867.860	322	46.173	1.846	.160
	Teacher High School	77	42.1521	6.37456	Total	15038.342	324			
Systemacity	Public High School	128	42.3177	6.29625	Between	106.197	2	53.099		
	Anatolian High School	120	42.4028	6.41615	Within	12289.923	322	38.167	1.391	.250
	Teacher High School	77	41.0173	5.56826	Total	12396.120	324			
CCTDI-R Scale Total Score	Public High School	128	253.4234	29.04468	Between	4981.685	2	2490.843		
	Anatolian High School	120	257.4953	27.50386	Within	247719.408	322	769.315	3.238	.041
	Teacher High School	77	247.1923	25.79372	Total	252701.094	324			

Problem 2. What are teacher candidates' study approaches? How do teacher candidates' study approaches vary according to the varieties of gender, department, grade and graduated secondary school?

The minimum and the maximum score that can be taken from the SPQ scale are between 10-50 for the first factor profound approach and the second superficial approach. In this study, Students' average score for the first factor which is profound approach is found as 31.7938; and average score for the second factor which is superficial approach is found as 29.3631 (Table 6).

Table 6. Distribution of scores of students taken from SPQ according to the factors.

SPQ Scale Factors	X	SD	SE
1st Factor Profound Approach	31.7938	6.56947	.36441
2nd Factor Superficial Approach	29.3631	7.08179	.39283

As in table 2, as a result of independent group T-test applied to define whether the scores taken from the SPQ factors differentiate according to the gender variable; for the second factor superficial approach score the difference between the arithmetic average of the groups have been found statistically significant.Male students' score average is significantly higher than the Female students ($p<.05$).

Table 7. The results of Independent group T-test of the scores taken from SPQ factors according to the gender variable of students.

SPQ Scale Factors	Group	N	X	SD	SE	T test		
						t	**df**	**p**
1st Factor Profound Approach	Female	271	31.5277	6.34839	.38564	-1.641	323	.102
	Male	54	33.1296	7.50609	1.02145			
2nd Factor Superficial Approach	Female	271	28.7454	7.03679	.42745	-3.586	323	.000
	Male	54	32.4630	6.52633	.88812			

As seen in table 8; as a result of independent group T-test applied to define whether the scores taken from the Profound Approach and Superficial Approach factors show a significant difference according to the department variable; for the superficial approach factor and the profound approach factor scores the difference between the arithmetic average of the group has been found statistically to be insignificant.

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Table 8. The results of Independent group T-test of the scores taken from SPQ factors according to the department variable of students.

SPQ Scale Factors	Group	N	X	SD	SE	T test		
						t	df	p
1st Factor Profound Approach	Science Education	157	32.1783	6.64821	.53059	1.020	323	.308
	Elementary School	168	31.4345	6.49425	.50104			
2nd Factor Superficial Approach	Science Education	157	29.1274	7.42115	.59227	-.579	323	.563
	Elementary School	168	29.5833	6.76413	.52186			

As seen in table 9 as a result of one-way analysis of variance (ANOVA) which is done in order to determine whether the scores taken from the Profound Approach and Superficial Approach factors show a significant difference according to the grade variable; for the superficial approach factor scores and the profound approach factor scores the difference between the arithmetic average of the group has been found statistically to be insignificant.

Table 9. The results of one-way analysis of variance (ANOVA) applied to define whether the scores taken from SPQ factors differentiate according to the grade variable of students.

N. X and SD Values					ANOVA Results					
SPQ Scale Factors	**Group**	**N**	**X**	**SD**	**Var. K.**	**SS**	**df**	**MS**	**F**	**p**
1st Factor Profound Approach	1.Grade	103	32.1165	6.85322	Between	34.548	3	11.516	.265	.851
	2.Grade	84	31.6071	6.39657	Within	13948.639	321	43.454		
	3.Grade	65	31.2769	5.92797	Total	13983.188	324			
	4.Grade	73	32.0137	6.98509						
2nd Factor Superficial Approach	1.Grade	103	30.5631	7.08308	Between	355.869	3	118.623	2.396	.068
	2.Grade	84	29.5476	6.71342	Within	15893.288	321	49.512		
	3.Grade	65	27.6308	7.02355	Total	16249.157	324			
	4.Grade	73	29.0000	7.33901						

As a result of one-way analysis of variance (ANOVA) which is done in order to determine whether the scores taken from the Profound Approach and Superficial Approach factors show a significant difference according to the grade variable; for the superficial approach factor scores and the profound approach factor scores the difference between the arithmetic average of the group has been found statistically to be insignificant.

Problem 3. Is there a connection between critical thinking dispositions and study process of teacher candidates?

Table 10. Pearson Multiplication Momentum Correlation Analysis Results conducted to define relations of the SPQ factors and CCTDI-R scale and factors.

SRLS scale and Factors	SPQ	
	Profound Approach	**Superficial Approach**
Analyticity	r=.145 (**)	r=-.318 (**)
Open-Mindedness	r=.106	r=-.455 (**)
Inquisitiveness	r=.254 (**)	r=-.310 (**)
Self-Confidence	r=.182 (**)	r=-.246 (**)
Truth-Seeking	r=.174 (**)	r=-.386 (**)
Systemacity	r=.060	r=-.283 (**)
CCTDI-R Scale Total Score	r=.197 (**)	r=-.428 (**)

1. As a result of Pearson Multiplication Momentum Correlation Analysis, conducted to define the relations between the SPQ scale factors and CCTDI-R scale and factors; SPQ scale Profound Approach factor score and CCTDI-R scale score, Analyticity, Inquisitiveness, Self-Confidence, Truth-Seeking, Systemacity factors scores have a significant positive relation while SPQ scale Superficial Approach factor score and CCTDI-R scale and all factors have a significant negative relation (Table 10).

RESULTS

Critical thinking has always been an important process but it is even more important now as information and data are increasing more and more in 21st century and it is easier than ever to reach information. Students should also be taught how to gather information by thinking critically and how to use it effectively (Halpern, 1996).

Factors suggested to be affecting critical thinking can be listed as awareness of the problem, flexible thinking, having no prejudices, being eager to research and think, being knowledgeable, skeptical, curious and honest, insisting to reach conclusions, undertaking responsibility and taking risks. Apart from these characteristics, age,

sex, race, intelligence, level of development, socio-economic situation, experience etc. also affect critical thinking (Kaya, 1997).

In this study it was found that critical thinking level of teacher candidates was medium. Koçak et al. (2015), Kürüm (2002), Çetin (2008), Beşoluk and Önder (2010) Türnüklü and Yeşildere (2005), Özdemir (2005), Saçlı and Demirhan (2008), Şen (2009), Korkmaz (2009) also reached the same conclusion in their studies. Çetinkaya (2011), Akar (2007) and Zayif (2008), Bulut, Ertem and Sevil (2009), Öztürk and Ulusoy (2008), Durmuş et al. (2015) found that critical thinking level of teacher candidates was low. Evin Gencel and Güzel Candan (2014) found that critical thinking level of teacher candidates was "good" and their level of reflective thinking was "medium".

As a result of this study, it is found that girls' average point is meaningfully higher than boys' in terms of their critical thinking points. Different studies have reached conclusions supporting our study. Çetinkaya (2011) found a meaningful difference in terms of sex variable. Female teacher candidates had more positive ideas than males. Kırbaşlar, Özsoy-Güneş (2014), Özsoy-Güneş et al. (2014), Özsoy-Güneş et al. (2013), Yıldırım (2005), Gülveren (2007), Zayif (2008), Beşoluk and Önder (2010) also reached the same conclusion. On the other hand, Koçak et al. (2015), Çetin (2015), Çekiç (2007) has found that there is no meaningful relationship between critical thinking level of teacher candidates and their sex. In the studies of Kürüm (2002), Özdemir (2005), Akar (2007), Saçlı and Demirhan (2008), Korkmaz (2009), Narin (2009), Şen (2009), Ekinci and Aybek (2010), sex is not a variable that makes a big difference in terms of views about critical thinking. As can be seen, the effect of sex variable on the level of critical thinking varies in the literature. That is why making generalizations is not possible.

Aybek (2007) emphasizes that teacher is the most important factor for the students to be able to think, question, express and justify their opinions in a free classroom environment where modern approaches are applied, and there is no memorizing, fear or constraint. Teachers who think critically and reflectively will be a role model for their students. That is why, teachers should be observed to see if they have critical thinking skills or not during their undergraduate education and their education should include activities that will foster critical thinking skills (Aybek et al., 2015). It is an undeniable truth that teaching should be designed with educational tasks that will develop students' profound and sense-making learning styles.

In their study in which they research the relationship between studying skills and academic risk taking skills, İlhan et al. (2013) stated that there was a meaningful relationship between these two variables. This result supports the result of our study that says there is a positive relationship between profound thinking factor and critical thinking. It is concluded that in-class counselling applications (Avcı, 2006) and educational counselling facilities (Koruklu, 2010) are effective to improve study skills according to experimental researches done to improve students' study skills. Accordingly, we can make use of in-class counselling applications and educational counselling facilities to support students to improve their study and critical thinking skills. It is highly important for students to have study skills and critical thinking processes as separate classes at schools or as included in the other lessons to improve their study and critical thinking skills.

In our study, male students have superficial study skills at a higher level than female students. Çuhadar et al. (2013) and Batdal Karaduman et al. (2015) also reached the same conclusions. There are findings supporting the view that study approaches do not change according to sex variable (Çoban and Ergin, 2008; Ellez and Sezgin, 2002; Selçuk, Çalışkan and Erol, 2007, Batdal Karaduman, 2013). Along with this, there are different findings in the literature, too. According to the study of Miller, Finley and McKinley (1990), male students prefer profound study skills more than female students; according to the study of Beşoluk and Önder (2010) and Biggs (1987a), female students prefer profound study skills more than male students. Çoban and Ergin (2008) states that there is a difference on behalf of male students in terms of superficial motivation factor that is a sub-dimension of superficial learning and there is a difference on behalf of female students in terms of anxiety factor. This situation can be interpreted as that students' study strategies and views on the subject to be studied can vary in terms of sex variable in the sense of academic structure of the education program. Selçuk, Çalışkan and Erol (2007) have found that profound learning is preferred more than superficial learning, learning approaches do not change according to sex variable and superficial learning is preferred less and profound learning is preferred more as the grade increases.

According to our study, students' preferences about learning approaches do not change according to grade variable. Ozan and Çiftçi (2013), Ekinci (2009), Ekinci and Ekinci, (2007), Senemoğlu (2011) reached the same conclusion in their studies. However, there are some studies showing that students' grades affect their preference of learning approaches (Ellez and Sezgin, 2002; Selçuk, Çalıskan and Erol, 2007). The study done by Altun (2013) shows that teacher candidates' study approaches change according to the university they graduated from, the field they studied and according to their sex. In Olpak and Korucu's study (2014), students' study approaches do not change according to their sex, age, grade or the field they study.

It is thought that teaching study skills can help learning process of every subject of every field, and along with this, it can have a positive effect on students' academic success (Kutlu, Korkmaz, 2013). According to these results, more tasks to encourage students to prefer profound learning and critical thinking should be included in teacher candidates' education. Educational environment should be designed in a way that will support students' critical thinking and activities should be organized accordingly. Further research can be done to determine the reasons why students of faculty of education prefer profound learning less as their grade increases.

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Language Acts

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ABSTRACT
In this paper the basic question is how language expresses the world and things and, consequently, what vision of the world is expressed by language and what relationship it creates with the real.
The language appears as an inner dimension that is incarnated in expression giving shape to the unrepresentable; it is not merely a sum of positive elements added to each other, but a series of diachronic relations; the linguistic sign cannot be seen as having one definite, univocal meaning, but it is in the gaps and in the opposition between signs that all language becomes meaningful. Language is a constant work-in-progress, which cannot be schematized and viewed in static form. It is an equilibrium in incessant movement between signs and signs, living and dynamic, and is continually being renewed. It is about what is said: talking does not finish in what is said, but in what is said the talking is captured and held. As far as language is concerned, if it is the relation between signs that gives each sign meaning, then meaning arises from their overlapping as well as from the gaps between words; meaning lies in the verbal chain since it stands against other signs; its sense is an integral part of language; words always operate on a background of words, and it is never anything but a fold in the vast fabric of speaking. In the light of contemporary philosophical thinking, language is to be seen as a set of margins between signs and meanings, in a process of continual revelation, in a transformation of contents that generate other contents. The assumption is that in language there is something problematic, the coexistence of the logical level with the pragmatic one, in a continuous movement that cannot be stopped in signs. In this sense, it is right to call it the *unsayable, the ungraspable*. Language lives precisely *due to* and *on* this constant *aspiration* to say the unsayable, to take into oneself the ungraspable.
This is the communicative dimension in which meaning is always a *process*.
It is the situation of *a co-feeling* between subjects, in which understanding is achieved. In this paper there is the report of research about *Effects of communication* played in some schools in Lecce, that reflects these issues on plan methodological – operational.
This work is divided in three parts:
I:Reflections about language within a phenomenological approach
II. Analysis about communication in the class
III Report of research about *Effects of communication in the educational relationship*.

INTRODUCTION

The significant, like the intelligible, entails a coming to awareness which gives expression to the significations passively preconstituted in the real work carried out in the life world.
In the perspective of this argument, the communicative dimension needs to start from relations and dialogue to be able to construct the interlocutory space that leads to mutual understanding and possible agreement.
The constant presence of the relation between a communicative way of acting and the context can be seen when observing communication at school.
Communication in class is connected to asymmetric interaction, and often adopts the pedagogic aim of reducing this asymmetry. Research has shown that the teacher's communicative style can affect the pupils' behavior and their school results, which makes us think about the passage from a strictly asymmetrical interaction framework to a less rigid communicative style in which the teacher takes the role of moderator rather than director, or where there are the features of an educational relationship centred on dialogue and on processes of co-construction of knowledge. In interacting with the pupils, the teacher must offer them behavioural models on how to elaborate knowledge and how to be receptive and critical of others' ideas. The strategy of *mirroring* underpins the repetition/reformulation of questions, already expressed by some members of the group, in whom the teacher sees the potential to reopen the discussion.
The activity of mediation typical of teaching makes the child's cognitive action explicit and conscious, giving the child access to conscience and control, which will be mastered little by little. The teacher's role therefore consists of planning and coordinating the activities, encouraging exchanges, discussion, making the class into *a learning community* that can be open to the outside world.

LANGUAGE: RELATION BETWEEN ACTIVITY AND PASSIVITY

What does speaking mean? General opinion will certainly respond that speaking is the activity of the organs of speech and hearing. Speaking means phonetically expressing and communicating the impulses of the human soul. These are guided by thoughts. Using this definition of language, three things are taken for granted as being true: firstly, speaking is expressing. The idea of language as expression is the most common one. It presupposes an

inner state that is being expressed. Viewing language as expression means seeing it in its external guise, precisely in the act that explains expression as stemming from an inner state. Secondly, language is considered an activity of man. Therefore we cannot say *language speaks*, since this would equate to stating that it is language that gives man being. Seen in this light, man would be a premise of language. Lastly, the expressing done by man consists of giving the real and the unreal a presence and an image.

We talk in our sleep and when we are awake, we are always talking, even when we don't utter a word, but simply listen or read, even when we are not listening or reading, but engaged in a task or relaxing in idleness. We talk because talking is part of us (Heidegger, 1956). Speaking means expressing and communicating the impulses of the human soul, which are guided by thoughts. The word that expresses thought is already an initial intrinsic deformation of that thought, which in its unexpressed purity, would be nothing. What is expressed does not exist either, outside what expresses it, but expressing is still different from what is expressed, and cannot be confused with it. Between the word and the thought there is therefore no priority of one over the other, but mutual presupposition and a perpetual overlapping: it is at this level that the link between word and thought is actually affected by creativity. Between thought and word there has always implicitly been an original complicity that makes it impossible to separate the two dimensions, thought and expression: thought and word anticipate each other, they constantly replace each other. Every thought comes from the word and returns to it, every word is born in thoughts and finishes there. Among men, and in each of them there is an incredible flourishing of words, of which thoughts are the framework (Merleau-Ponty, 1945). If the word presupposed the thought, if speaking meant first of all accessing the object through an intention of knowledge or a representation, one would not understand why thought seeks expression as its goal, because the most familiar object seems indefinite until we find a name for it, because even the thinking subject is in a sort of ignorance of his own thoughts until he has formulated them for himself or written or said them, as is shown by the example of many writers who start a book without knowing exactly what they are going to narrate. A thought that was content to live for itself beyond the difficulties of words and communication, would fall into unconsciousness as soon as it appeared, so it would not exist even for itself.

On the basis of this definition of language three things are considered certain: speaking is expressing, language is regarded as an activity of man, and man's expressing consists of giving presence and form to the real and the unreal.

Therefore language appears as an inner dimension that is incarnated in expression giving shape to the unrepresentable; it is not merely a sum of positive elements added to each other, but a series of diachronic relations; the linguistic sign cannot be seen as having one definite, univocal meaning, but it is in the gaps and in the opposition between signs that all language becomes meaningful. Language is a constant work-in-progress, which cannot be schematized and viewed in static form. It is an equilibrium in incessant movement between signs and signs, living and dynamic, and is continually being renewed. It is about what is said: talking does not finish in what is said, but in what is said the talking is captured and held. As far as language is concerned, if it is the relation between signs that gives each sign meaning, then meaning arises from their overlapping as well as from the gaps between words; meaning lies in the verbal chain since it stands against other signs; its sense is an integral part of language; words always operate on a background of words, and it is never anything but a fold in the vast fabric of speaking.

To understand language we cannot look up some internal lexicon that will give us, for the words and the forms, the pure thoughts they should correspond to: all we need is to give ourselves to its life, to its movement of differentiation and articulation, to its eloquent gesticulation. There is therefore opacity in language: it is never interrupted to leave space for pure meaning, it is never limited unless it be by another language and its meaning is always set in words. Like a charade, it can only be understood by the interaction of signs, each of which, taken in isolation, is either unclear or banal: only together do they make sense.

The opacity of language enables us to have a language that is really able to communicate: what makes language opaque and clouds its transparency, is not a limitation of language but is in fact what makes it alive and inexhaustible. Meaning is, in a way, coextensive to language in its entirety; it is not distinguished from language but is there, totally immersed in it. At this level, there occurs something similar to what happens in painting, where rather than being *expressed* by the picture, the meaning impregnates the picture.

Language does not express a meaning, but it is actually the meaning that permeates and impregnates language, and the original dimension is a kind of huge fabric from which, like endless folds, can emerge the multiplicity of direct speech.

Construing the communicative universe therefore means giving voice to the lines that shape language from within, pushing the limits of language without completely breaking the structural constraints, to try in vain to create a kind of foreign language within one's own language. Language does not subside into a static state, being constantly pushed beyond its limits by the inner forces that give life to it. Beneath the conceptual meaning of words there is an existential meaning. Meaning is a dynamic object created intersubjectively and having a phenomenological dimension that is involved in every encounter. This is in contrast to the classical cognitive approaches that see meaning as an intrinsic property of certain language forms. Language evolves on the basis of the transformations of the natural and social context in which they happen to live. These modifications are perceived and expressed in

language, which is not a reality complete unto itself, a sort of absolute subject of forms of life and of tradition, but something closely connected to the context in which it is determined and which, thanks to its typical symbolic elaboration, it helps to determine.

We need to add another interpretative category to the three sided communication situation analyzed by Davidson, Peirce and Wittgenstein.

This is the category of common feeling. In the constitution of language as process, we can identify the space of common feeling, which is the space where one is with others in the world. But while this theoretical orientation adds to the debate the important idea of the constitution of the language process and of its situated in communicative relations, the context of analyzing the language process must be broadened and not restricted to the subjectivity of sender and receiver, since if language were locked between these two, the process itself would be objectified and limited to the relational exchange.

In the light of contemporary philosophical thinking, language is to be seen as a set of margins between signs and meanings, in a process of continual revelation, in a transformation of contents that generate other contents. The assumption is that in language there is something problematic, the coexistence of the logical level with the pragmatic one, in a continuous movement that cannot be stopped in signs. In this sense, it is right to call it the *unswayable*, *the ungraspable*. Language lives precisely *due to* and *on* this constant *aspiration* to say the unswayable, to take into oneself the ungraspable.

But if we move one step at a time, in language there is on the one hand its logical form and on the other hand the construction of a set of relations between the language expressions and the entities that help to make up the semantic contents of utterances. And it is in this second phase that semantics takes up what was bequeathed by ontology. In the concrete determinations inherent to the discourse, we see the inadequacy of a vision of the phenomenon of language seen as a mere system, and the need to go beyond the structuralism approach in a perspective that can account for the capacity, typical of discourse, to transcend the system in order to refer to the world.

The semantic approach therefore finds confirmation on the level of reflection where by interpreting the symbols encountered in existence, the self-interpreting subject will no longer be the Husserlian and Cartesian *cogito*, but in the words of Ricœur, an existent being that discovers (Ricœur, 1969). And this is the phenomenological dimension in which language is placed. In this phenomenological perspective we find a field of signification that is prior to any objectivity; meaning is found to originate in the phenomenological dimension of the intersubjective space.

This opens the way to going beyond idealism, beyond the subject locked in his system of signification, in order to affirm the *worldliness of man* as a living being, the boundaries of whose intentionality are the whole world. And it is precisely because using a phenomenological approach in our reasoning makes us reflect on the world and on our way of being with others, that it is useful to reflect on the world that is being referred to, in which every*thing* is not locked in on itself but is part of a context which brings many relations together into a single figure.

At the centre is the concept of *relation*, no longer in the sense of a closed circle, but seen as a movement that stays inexorably open and cannot be completed.

This is the relation between activity and passivity based on which there is a rethinking of the ontology of the Whole as *hollow fullness*, a plurality made up of finite sharing/dividing. This brings into question the clear separation between the perceiving subject and the perceived object, between the subject's activity and at the same time its passivity.

And this is the complex path leading straight back to the investigation of the world's inner relational modalities, in order to discover their interweaving with the sensitive substratum, the sediment of the world, and thus reveal the latter as a *system of equivalences* which is *already there*, prior to any explicit ideation. In other words this investigation concerns identities that are no longer the finished product, namely the clearly defined integral forms of a relation between elements that are *already given* and are confined within the borders of a pre-established, separate individuality, but identities that arise *due to* and *out of* the relation with all others. Moreover, meaning is not only experience of the world, but experience with others. This leads us to recognize the fact that every being is for the others that surround it and look at it and that its existence means communicating with others, *being-with*. This *being-with* explains why, rather than being a synthetically organized objective grouping, or a multiplicity of objects beside each other, the world is in fact a system of concordances and of inherent concordances, i.e. a network of relational exchanges all referring to each other.

The ontological inclination of this argument leads to the following analogy: just as the body also sees itself and in so doing becomes *light* revealing to the visible what is within it and achieving the segregation of the internal and external, so the word, supported by language's many ideal relations, is a certain region of the universe of meanings it is both the organ and resonator of all the others and, due to this, is coextensive to the thinkable. The word is a total part of the significations like the flesh of the visible, as it is in relation to Being through a being, and lastly, as it is narcissistic, eroticized, endowed with a natural magic that lures other significations into its net in the same way as the body feels the world by feeling itself (Merleau-Ponty 1960).

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Therefore, although it is seen as a dynamic object, what is investigated is no longer the word, but the *region* of the word. The word expands into the invisible and with it the body's belonging to being and the bodily relevance of every being are extended to semantic operations.

So in this new ontology, the linguistic process is interwoven with the interlocutor's process of consciousness. But how does language express this movement? How can the *really existing* be brought into language?

Language represents the subject's *taking* a stance in the world of its meanings and in itself holds an inner dimension, but this is not a closed and self-conscious thought. Language tries to express the drives of the real through allusions and inter weavings, multiplying the relational threads of meaning. For example for the speaking subject and for those listening to him, the making of sounds brings about a certain structuring of experience, a certain modulation of existence. The system of sounds and definite words is decentred in the discourse, breaks down and is reorganized according to a pattern that is revealed to the speaker and the listener at the very moment the communication is underway. This is the j*ourney towards language*, in which every change taking place in the language's essential words determines at the same time, the change in the way things and the world reveal themselves to man. Corresponding to the system of words, of signs forming the visible side of language, there is the invisible side, the hidden framework. Language lives of the impossibility of saying what one would like to say, it revolves around a *deep cavity* without which language itself would not exist, and having retrieved the pragmatic nature of meaning, it becomes language *in action*. And this is shown even more clearly in the *figurative sense* accompanying language: a frown, a gulp, a sigh,….give meaning to the language outside of ourselves, and transcend its rigid patterns of words. This is *visual sound*, conveyed from the sender to the receiver, in which the word becomes: the echo of the bare figure resounding in the open depths (Nancy, 2000). The word region, as an echo, is not confined to a single sound that resonates in the depths of the individual, not closed but open to receiving and recreating.

If we follow these arguments we come upon perspectives to make us reflect, leading to the redefining of the process of construing meaning through the lens of phenomenology: the symbol cannot be interpreted or reduced to a mere sign, but rather it must be acknowledged that its interpretation is unending. It is a point in the construction and development of the hermeneutical circle. Language is not exclusively an operation of the intelligence, or an exclusive motor phenomenon; it is wholly motor and wholly intelligence; it holds a very broad, complex meaning and is not reduced to the operations and systems of signification.

To paraphrase Heidegger: everything is language, insofar as it is the *abode of Being*, *the essence of Being;* however our relation with language is uncertain, obscure, almost impossible to express; in various ways, speaking arises from the unspoken, whether this be something not yet expressed or something that must remain unexpressed in that it is a *reality that eludes words*.

Following these thoughts we can see the interconnection between the spoken and something that eludes words: not only something that has not yet come to words, but perhaps will never be able to reach them.

The conceptual level of language, composed of figures, purely ideal conventional signs, therefore falls in a *communicative* dimension in a *network of shared actions*, which involves all the subjects participating in the conversation, and *expresses* their reciprocal *acting*, their relating to each other and *moving–towards-each-other*. In this communicative dimension meaning is always a *process*. It is the *co-feeling* situation among the subjects, in which understanding is achieved. The communicative approach has contributed to the development of the concept of language and communication. The communicative relation is an exchange not only of contents but also of semantic, grammatical or pragmatic categories or of language functions. This complex perspective takes on a relational power, in that it presupposes and suggests the relation, creating space for reflection and for the interlocutors' co-responsibility within the *place* where it is carried out.

Communication is achieved in a sliding of meanings between the interlocutors, in filigree there emerges the importance of the pragmatic side of language: to have real understanding one needs to immerse oneself in the concrete use of language, in the meaningful slipping that the interlocutors impose on terms. Consequently the origins of meaning are not to be found in a cognitive system, or in a socially isolated subject, but in an intersubjective space. We might add that the process is continuous; it is the revelation and plurality of sense, and the unswayable in the relating of experiences. Getting down to the substance of the question, there is the attempt to give meaning back to *the depth of existence*. The critical reflection that opens up tries to bring meaning down from the pedestal of individual creation to involve it in the tormented adventure of existence, in communicative intersubjectivity influenced by the context, as internalized social resources.

And it is precisely by bringing into play this type of problems that the need arises to rethink the *chiasm* between context and language in a *new way*. And this is the path outlined as an alternative to the classical cognitive approaches that conceive of meaning as the intrinsic property of certain language forms. In the light of the analysis made so far, in this system of relations, in this *relational key* – or in a system of relations in which we ourselves are held, insofar as we are made up of them - in this pre-objective framework, meaning turns out to be not a mere construct, though formed in the phenomenological experience, but in constant transformation. The hermeneutics of the symbol is opened up, keeping phenomenology engaged in dialogue with the philosophy of thought generated by the Cartesian *cogito*. In other words, reflection and interpretation are two complementary moments in a

hermeneutical journey that integrates *cogito* with the awareness that man's concrete situation is not just that of being the centre of his existence, but also of being in the world of others.
These are the philosophical implications of the conception of situated meaning.
The words, the vowels, the phonemes from an analysis that considers not just the meaning of words as concepts and terms, but also the *emotional sense* as *ways of singing the world*.
This is a communicative dimension in which signs are already themselves the meaning, and the latter is entirely absorbed in the concrete gestural-expression situated in the sender-receiver relationship. It is not the complete achievement of language that one must seek, it is not towards the determination of the weight of words, but the thought of these *fields of thought*.
The way sign systems work conveys a particular relationship with reality.
The relationship of signs finds an objective *underpinning* in the social relations between individuals and the world around them. Generally speaking, casting light on the laws of language means comparing the structural conditions of expression with the settings where it develops, with the reasons and rules of its genesis, with the multiple settings in which experience gains meaning. Once it has been verified that this deep need of semiotics matches and melds with Husserl's legitimate demand to investigate the way the life world acts as an underpinning, we have the solution to the riddle which says for man there is constantly a pre-scientific world which is pre-linguistic and pre-meaning. It is then easy to realize that this attempt at a radical foundation exhausts itself in the blind alleys of an idealistic approach, which entrusts absolute subjectivity with the extreme task of construing the meaning of the world. One achieves however an effective explanatory capacity when semiotic observation, which holds that the basis of generalization and idealization finds its roots in the typical relations that objectively take place in social life showing the articulation of language and real action. This calls into play, in other words, the real configuration of the actual work of language, making up *language acts*. Basically one can talk about producing sense only when one takes man's production into concrete consideration; man starts to make sense of reality, he places between himself and reality the intelligible-significant realm, when he triggers the dialectics of his own production. The significant, like the intelligible, entails a coming to awareness which gives expression to the significations passively pre constituted in the real work carried out in the life world. In the perspective of this argument, the communicative dimension needs to start from relations and dialogue to be able to construct the interlocutory space that leads to mutual understanding and possible agreement.

COMMUNICATION DIMENSION IN THE CLASS CONTEXT

The constant presence of the relation between a communicative way of acting and the context can be seen when observing communication at school.
The initial assumption is that interaction in teaching-learning is a construction of a shared space within which an agreement can be negotiated as the outcome of the participants' capacity to dialogue and relate (Coppola, 2008).
In this space of interlocutory co-responsibility, communication is not just competence and language event, but it is the construction of a shared meaning and *communicative action* (Habermas, 1981).
The dialogic perspective tends to give depth to things, to make them more complex. It presupposes and suggests exchange through relating. Placing dialogue at the basis of the teaching/learning process means creating, within lessons, spaces for reflection and interlocutory co-responsibility. In this context communicative competence is required in every kind of language event, in order to consider the teaching/learning process an active construction of theoretical-practical knowledge (knowing and knowing how to), of tools, values and ways of being, all the outcome of the negotiation of meanings and a reflection of the ways of being and complex dynamics that are not only personal but also socio-cultural (Coppola, 2008). The teacher's communicative style is also reflected in the choice of linguistic-cultural models. This choice should be oriented towards a plurinormative didactics; in other words it should pay attention to linguistic-cultural diversification and to the development of the ability to use the language in different contexts. In short, all behavior is communication and all communication influences behavior (Watzlawick, Helmick, Jackson, 1971).
Overall, the conversational network is characterized by a way of acting in which the actors are systematically led to: - identify the shared aims to be achieved, - understand and justify the various actions performed, - understand and influence the communicative strategies in a cooperative direction, - assimilate the most common kinds of discourse that act as constraints on the speaker's subsequent choice, - negotiate and re-negotiate purposes and aims in view of the communicative exchange, - coordinate the reciprocal actions to maintain the stability of the system of interactions, - produce a change in the initial situation by changing entrenched interpretative patterns, - elaborate new shared meanings. The teacher asks how the communicative actions expressed can be applied to school education. There is no doubt that promoting this communicative attitude must become an aim for the teacher to pursue systematically and coherently in his/her role in charge of the managing the class group. In the communicative perspective put forward here, this management becomes essentially a real task of animating the class, where the style adopted by the teacher in relating to students or to the group is essential if certain aims are to be achieved.
The school as an institution visibly and practically takes cognitive socialization as its primary aim.

The life of the class involves a series of decisions. The teacher's intervention, which has the task of leading the group to achieve its objectives, can be placed on the level of action or of behavior to be promoted. For instance, the subject or the group is told what it must and can do: here 'can' and 'must' are functions of a hierarchically higher position, the communication network is usually one-way and is limited to situations where precise information or instructions are given, decision-making is reserved for the leader, in virtue of the expertise that characterizes him/her concerning the aim to be achieved. It therefore becomes very likely that the communication network is expressed through the participants' passivity, adaptation or opposition to this behavior. Communication in class is connected to asymmetric interaction, and often adopts the pedagogic aim of reducing this asymmetry. Research has shown that the teacher's communicative style can affect the pupils' behavior and their school results, which makes us think about the passage from a strictly asymmetrical interaction framework to a less rigid communicative style in which the teacher takes the role of moderator rather than director, or where there are the features of an educational relationship centered on dialogue and on processes of co-construction of knowledge (Titone, 1988; Orletti, 2005). The capacity to establish relations, to interact with the class group, to consciously and effectively communicate one's needs, are not only all elements at the basis of a good educational relationship, but also a competence that the educational relationship must be able to promote so that it is acquired, since it constitutes the premise for the pupils' successful participation in the training and educational contexts they will encounter in the future. The class-group is the basic structure through which the school organization pursues the institutional objectives of the "systematic, planned acquisition of knowledge, but also constitutes the domain in which individual needs are displayed, differing from institutional ones (for instance the need to have friendships, to gain prestige or to give vent to aggressiveness)" (Carli, Mosca, 1980, p. 69). The latter aspect, defined as a sub-institutional level, is a profound feature of the process of socialization and is often considered by teachers to be the area where problems are manifested in relations between teaching staff and students. On the other hand the teacher cannot always correctly understand the quantity and quality of the interpersonal relations that are set up within a class. In the gap between the perception of the teacher and the real social status of the pupils, we can identify one of the factors that has a negative effect on the construction of adequate, gratifying teacher-pupil relations. So the failure to recognize needs and the inadequate expression of needs emerging at this level can lead to a difficult, dysfunctional integration of the class-group, and consequently have a negative effect on the primary learning process. There is a vast literature that underlines the fact that the quality of the educational relationship is the indispensable seedbed for the acquisition of capacities and competences in the various areas of knowledge. This is a widely held belief among teachers, but these same teachers are not always placed in a position to gain the tools for monitoring, managing, verifying, and developing the quality of the educational relationship. While teachers on the one hand are able to perceive, often in advance, situations of uneasiness amongst pupils and with pupils, they often do not have the professional know-how to deal successfully with problems and critical aspects. Scholars seem almost totally in agreement in assigning the role of *discourse management* to teachers at all levels of schooling from nursery to secondary school, and also in underlining the essentially phonological nature of much academic teaching, not only in lectures, but also in seminar work. In the observation of a *typical* school lesson, what emerges are rigidly asymmetrical, predictable exchanges and pre-established situations, with stereotyped roles (Cilberti, Pugliese, Anderson, 2006). On the other hand it must be pointed out that interest in relating and in the communication of the class group is not usually part of the teacher's training and at any rate it is too ambitious an aim to be dealt with without an adequate documentation on these dynamics. The problem is that, more and more often, teachers today find themselves facing modes of communicating and relating that are incompatible with the structure that teachers try to give their teaching practice; there is a significant mismatch between the expected behaviors and the actual behaviors, which express apathy, disinterest, closure and at times an attitude of defiance, of intolerance, lack of respect even inside the classroom. Now, when in a strictly structured social context like that of the class we see a progressive deterioration of the relational fabric, when communication becomes ineffective, when there is the systematic defiance and criticism of the delicate relationship between the teacher's authority and the pupil's freedom, the overall balance of the fundamental teaching-learning relationship tips inevitably towards the negative side. All this is generally associated with a situation of great stress for the teachers, who find it hard to see a way out, in professional and personal terms, in their teaching practice. The pupil's distress is therefore accompanied by that of the teacher, whose function appears, not only to the teacher but also to society, to have been suddenly stripped of its usefulness and meaning. We see that when the behavior of the class group or of single pupils differs significantly from what can be called with some precision the acceptability threshold, and becomes repetitive and structured, it is the symptom of an uneasiness in the pupil/teacher relationship which must be dealt with using methods appropriate to the difficulty of the task. Essentially, we need to rely on the resources typical of the teacher's role which until now has always been played out on a mainly (if not exclusively) disciplinary plane and which today must also rely on the field of the educational relationship. The cognitive and social aspects of learning are closely tied to the various forms of communication and cooperation existing in every class between teachers and students. Each class is a specific community, in which, while relating, the individuals construct their own linguistic and communicative tools; though they share the same language, the use to which it is put depends largely on the rules they share for producing and interpreting every communicative event. For this reason each

class is the unit of analysis in which one expresses oneself and communication is studied. The role of language cannot be seen simply as a way of exchanging information: since communication actualizes a particular situation whose structure is created in the time and space shared with the other interlocutors, this time/space structure is the underpinning of intersubjectivity, which in the decentralization of viewpoints, enables a communicative universe to be constructed. Individual differences are fundamental to the processes of co-constructing knowledge but in a discussion, if they are not commented on and emphasized, they may not be noticed by the pupils. This essential task is the teacher's responsibility. Listening to and getting to know the pupils' way of reasoning is fundamental for coping with it. In interacting with the pupils, the teacher must offer them behavioral models on how to elaborate knowledge and how to be receptive and critical of others' ideas. The strategy of *mirroring* underpins the repetition/reformulation of questions, already expressed by some members of the group, in whom the teacher sees the potential to reopen the discussion.

The activity of mediation typical of teaching makes the child's cognitive action explicit and conscious, giving the child access to conscience and control, which will be mastered little by little. The teacher's role therefore consists of planning and coordinating the activities, encouraging exchanges, discussion, making the class into "a learning community" that can be open to the outside world.

The main support for this idea is to be found in Ricœur's philosophy, which holds that the symbol in written texts and speech acts *gives one something to think about* (Ricœur, 1969), since it connects the subject not only to his/her own unconscious, but ontologically to the relational universe. Every communicative exchange comes about in a frame, which, while indicating the specific rules, also allows for a constant control on the progress of the conversation, since the frames can be recognized and repeated over time, and some of them may even become actual rituals, or lead to actual constants, that is, to routines. In the specific school context, the latter are found in all kinds of classes - for instance, communication during the oral test, the giving of instructions – others are specific to the single class and make up a major part of the culture shared by teachers and pupils, regulated by the classroom contract. Discourse frames, the short sequences made up of "a single type of adjacent pairs (Do you understand?/I understand), are used systematically during the conversation. They serve to fill in over-long pauses, to gain time to think, to manage one's participation without interrupting the thematic coherence of the conversation […]. *Discourse routines* are in fact called the main organizers of teaching activity, since they direct the development and reduce margins of ambiguity; they are also shared by participants and socially acquired" (Selleri, 2004, pp. 64-65). In this picture, speech acts and behaviors have a *performative* value "by the very fact that they are used, they establish the framework of meaning underlying them as the given reality. In proposing certain teaching contents, in the act of presenting it in a certain way, the teacher is declaring what it is useful to transmit/learn, what is secondary and what needs to be explained; the teacher essentially attributes the status of event of importance to certain facts, and rejects others; in so doing he/she defines the area of semiotic reference orienting the process of interpretation (that is, of identifying as relevant, of selecting, of categorizing) which qualifies the pupil's fruition of the message, and therefore the domain of signification within which he/she is to work" (Venuleo, Salvatore, Grassi, Mossi, 2008, p.226).

Language acts are considered actions, as is shown by the theoretical work present in the examination of the philosophy of language from Wittgenstein to Habermas. Speech belongs to practical and technical actions, and is characterized by a communicative purpose. This first characterization (speaking equals acting, language equals a technique) justifies and specifies what the action must consist of from the pragmatic point of view. Though not wholly, this idea largely shares the viewpoint of Austin: using the terminology he introduced, we can call specific language acts *locutions* and call language acts locutive acts. All locutive acts have the effect of leading the agents taking part in them to irreversible compromise. The analysis of the concepts brings out the character of the network of concepts – like intention, motive, agent – called upon by action, showing that each of them draws the diversity of its significations from its uses in definite contexts and that the different contexts in turn relate them to each other, so one should speak as much about inter-signification as about signification. The analysis of propositions consists of thinking about the logical form of the utterances concerning action. We have three different senses or dimensions of the use of an utterance, or in general the use of language. Locutionary act: approximately equivalent to making a certain utterance with a certain meaning and reference, which still equates to the meaning in the traditional sense. Illocutionary act such as informing, ordering, warning, making a commitment to do something, etc., that is, utterances that have a certain force (conventional). Perlocutionary act: what we obtain or manage to do by saying something, like convincing, persuading, detaining, and even surprising and deceiving. All three of these kinds of actions are subject, clearly simply as actions, to the usual difficulties and reservations about the attempt as opposed to success, to being intentional rather than not being so, and so on. In other words the locutionary act has *meaning*, the illocutionary act has a certain *force* in saying something, the perlocutionary act is the *obtaining* of certain *effects* by saying something. The analysis of the speech act (authors like Austin, Strawson and Searle provide the theory of *speech acts*) addresses the propositional structure, and at this level the analysis does not merely examine the reference and the meaning, but *saying which is itself doing*, that is, the illocutionary act. The unit of discourse is the utterance, which has a meaning, or an intent, and the intent is what the speaker wants to say. The sign has the function of signifying, but only discourse has the function of

communicating. In other words, every discourse is performed as an event, but understood as meaning. This is possible insofar as language is the place where logic rises above psychology, and the place where logic shrinks before the postulation of a reality that makes up the ontological implication of the discourse.

The typical feature of discourse is to depict its speaker through the indicators of subjectivity. It therefore becomes possible to state that this very self-referential character of discourse admits the speaker's intention along with the force of the discourse in the field of communicability.

The intentional element comes into play when we move from what language does to what the speaker does.

Austin too stresses the speaker's self-reference. In the last lessons of *How to do things with words*, he comments that constative utterances also have a performative effect.

"The performative is not so clearly distinguished from the constative – the first successful or unsuccessful, the second true or false […]. When undertaking the task of finding a list of explicit performative verbs, it seemed that it would not always be so easy to distinguish performative from constative utterances, and so it seems useful to go back to the basic principles – to consider, starting from the bottom, in how many ways by saying something one *is* doing something, or *in* saying something one is doing something, and also *with* saying something one is doing something. And we started to distinguish a whole meaning group of "doing something" which are all included when we say, as is obvious, that saying something is in its full normal sense, doing something – which includes making certain sounds, uttering certain words in a particular construction, and uttering them with a certain "meaning" in the favored philosophical sense of these words, namely with a certain sense and a certain reference. The name I give the act of "saying something" in this full normal sense is a locutionary act, and the study of the utterances in this area and from this point of view, I call the study of locutions, or of full speech units" (Austin, 1955, p. 52).

In constatation, I make a commitment in a different way from a promise, like that of belief: *I believe in what I say*. With a constative utterance, we make an abstraction from the illocutionary aspects of the language act, and we concentrate on the locutionary ones . With a performative utterance, we pay the greatest attention to the illocutionary force of the utterance, and we make an abstraction of the dimension corresponding to facts.

In general the locutionary act, like the illocutionary act, is just an abstraction: every authentic speech act is both one and the other. It can therefore be seen that the act of locution allows the fixing in language of elements considered to be psychological: belief, desire, feeling and in general a corresponding *mental act*. This comment is important for the reference to the speaker. The idea of the speaker's intention is thus reintroduced.

It is the role of desire and belief to articulate the various meanings of *intention to*. On this line Ricœur arrives at a third sense of intention. I cannot promise without intending to produce in the other person the recognition that my utterance has the meaning of subjecting me to an obligation to do what I say.

The content of the communication therefore depends on the speakers' intentions so when a speaker makes a certain utterance, he does so with the intention of having a certain effect on the listeners through their recognition of his intention. This discourse, in the area of linguistic communication, re-establishes the connection between meaning and intention. It results in the equivalence between *meaning* and *intending*. As Ricœur argued, language is intentionally open to being because, at the constitutive level, it is a *way of being in being*. That is not to say that there is identity between language and being. Language distinguishes itself from being, since it presupposes it; in other words, there is a non linguistic basis (the non semantic) that precedes language and in which language itself is rooted.

Precisely insofar as it presupposes the ontological dimension, language can refer to the human experience in general. Or rather, it can be configured and modeled on the latter so as to reproduce it, since there is *structural identity* between the two levels. Language and the ontological plane conform in the sense that they are based on language and that on this basis there is a circular relation between experience and language. Phenomenology shows that it is being itself that gives the foundation and structure to language utterances, which incorporate this structure, and it is precisely because there is structural identity that language can refer to experience. This does not mean separating the central theme of phenomenology – all consciousness is consciousness of – from the method of phenomenology, that is, from the fact that it is an eidetic science describing experience. Experience is structured, has a sense and is therefore sayable, because it is intentional and it is always possible to explain the sense of an experience through the objectivity at which it aims.

Phenomenology operates at the level of experience while linguistic analysis operates at the level of utterances. The former establishes the level of constitution, the latter the level of expression. But the two methodologies converge insofar as the work of phenomenology is based on linguistic analysis and from the latter we can discover the former.

The object perceived is already a sense unit presumed liable to be annulled during the further appearances of the object.

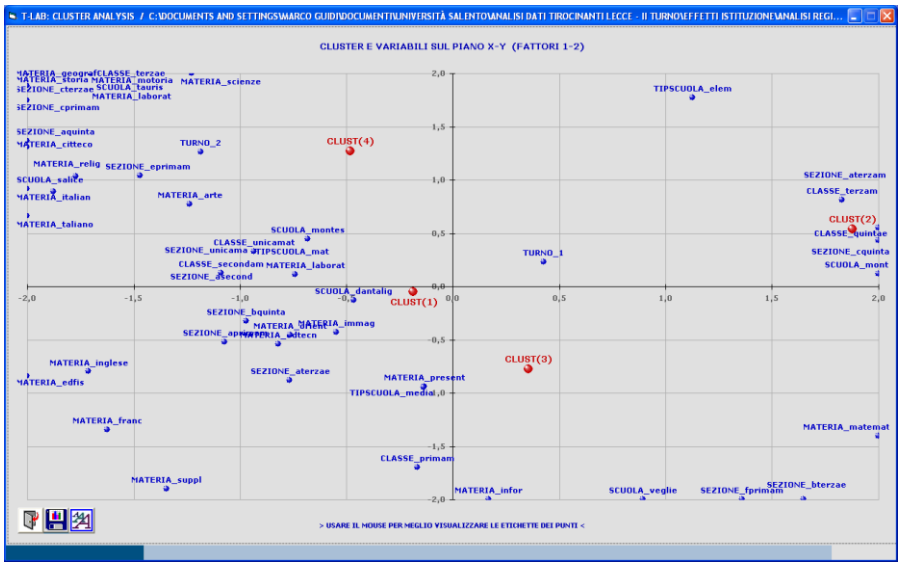
The following project reflects these issues on plan methodological – operational.

EFFECTS OF COMMUNICATION IN THE EDUCATIONAL RELATIONSHIP

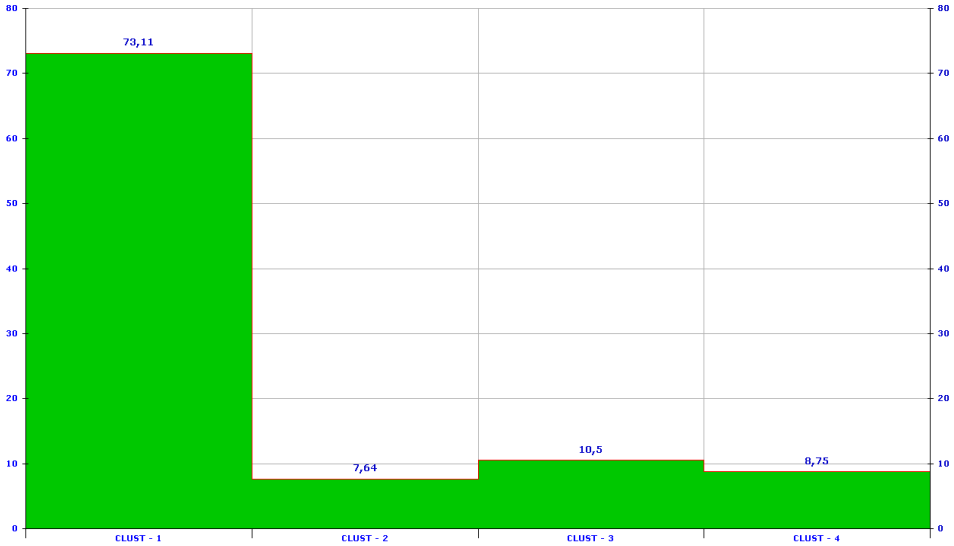
Action Lines

- Registration lessons
- The sample: 19 classes (kindergarten, primary school, secondary school) for 320 hours of registration

The Analysis of emotional text (AET) highlighted the culture present in the class contexts.
The AET was conducted with the support of the T-Lab software, and allowed the evidence of four Cluster - Cultural Repertoires (RC), distributed by the Cultural Space in the following graph:



Cluster 1: Collaborative learning
Cluster 2: Learning for objectives
Cluster 3: Learning by trials and errors
Cluster 4: Instruct



The first axis represents the relationship with the social categories
In the specific:

- with lemma refers to the representation of the vertical relationship, such as apply / know;
- with lemma refers to the product, the disciplinary contents, such as read / write.

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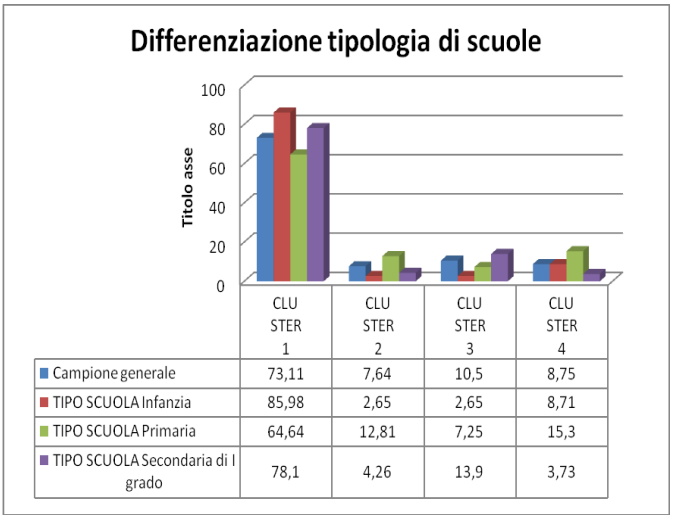
The second axis represents the different interpretation between actors.
In the specific results:
- the educational relationship of dependency with lemma form / belong;
- the presence of the autonomy with lemma to get out.

The following graph represents the clusters in different types of schools: kindergarten, primary school, secondary school.



	CLUSTER 1	CLUSTER 2	CLUSTER 3	CLUSTER 4
Campione generale	73,11	7,64	10,5	8,75
TIPO SCUOLA Infanzia	85,98	2,65	2,65	8,71
TIPO SCUOLA Primaria	64,64	12,81	7,25	15,3
TIPO SCUOLA Secondaria di I grado	78,1	4,26	13,9	3,73

The cluster 1 - Collaborative learning - is at 85.98% in, at 64.64% in kindergarten, and at 78.1% in secondary school grade. The cluster 4 - Instruct - is present at 8.71% in kindergarten, at 15.3% in primary school at 3.73% at the secondary school. The cluster 3 - Learning by trials and errors - is present in the secondary school at 13.9% and primary school at 7.25%, at 2.65% in kindergarten. The cluster 2 - Learning for objectives – in school children at 2.65% and secondary school at 4.26%, while in kindergarten at 12.81%.

From analysis of language structures in the communication of the class context has shown that:
in kindergarten the vertical relationship is greatly limited to facilitation and coordination attitude. The time of collaborative learning is more dilated than the other times of relationship in the classroom. it develops rather positively the horizontal relationship in the exercise of the task. The teacher broadcast its expertise on class.
In primary school: collaborative learning has more weight, and now it is added with a significant percentage of the learning for objectives and whom of instructing (with a gap of almost three percentage points). A low percentage takes the experience of trials and errors. The setting built is a relatedness between assign and carry out the task, in close balance with each other, the teacher assigns, the student works (even in dynamics groups) depending on the discipline. At the same time it also gives the attitude of the produce, the measure with the learning systems and products that are independent from teacher and his policies, because the teacher can also assume a learning consultant, because he makes easy the students works.
In the secondary school: the diagram shows that more than half is related to collaborative learning, the remaining 22% (of which 13.9% learning by trials and errors) ranks representation for carrying out the task. This action of the teacher makes easy the groups works. The class interaction becomes symbolic space shared. The vertical relationship is strongly emphasized, and assumes power control, the teacher tends to define the outcome the learning process. This process is oriented to the realizing of students objectives.

CONCLUSION

This research has show that there is meaning before language. *Lebenwelt* is the experience that precedes language. It is reached through an operation carried out *in* and *on* language in the form of retracing via questioning which enables language in its entirety to find its foundation in what is outside language.
Language contains the reference to something different from the self.
Phenomenology shows that it is being itself that underlies and structures language utterances, which incorporate this structure, and it is precisely because there is structural identity that language can refer to experience.
The language of action construes meaning not in a situation of observation, but precisely insofar as it informs action in the transaction process that develops between two agents. For this reason the interplay of question and answer in which the concepts of intuition and reflection take on meaning, is not where protocols are expressed. But analyzing ordinary language reveals that languages construe meaning, even without constatation and without entailing verification There is, therefore, sense, not only in constatation, but also in all illocutionary acts, just as

there is illocution in a constatation. Giving an order or making a promise is to say something about something, but to say it in the imperative or in the future indicative etc.
Ricœur argues that the crux of meaning lies in taking the other person into account. The relation between wills, in conflict or in collaboration, is important for any strategy. Action is always in fact a way of behaving in relation to another person, of regulating one's own game against the other's game.
At this level language works by *family resemblances*, *overlapping*, and *digressions*. This is the *wisdom of language*.

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Learning Of A Short Form Of Autogenic Training And Its Influence On Psychic And Somatic Feelings And On Coping With Stress In Depressive Inpatients

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ABSTRACT
The goal of this pilot study was to teach depressive inpatients a short form of Autogenic Training (AT) consisting of the first two formulas: heaviness and warmth of limbs, within 5 days and to examine psychic and somatic feelings and effects of coping with stress. 12 comparable depressive female and male patients took part in this study. 6 patients attended AT and the other 6 participated on an unspecific relaxation. At the beginning and at the end oft the study they had to complete 3 questionnaires: Beck-Depressions-Inventar, Änderungssensitive Symptomliste and Streßverarbeitungsfragebogen 120. The results showed that the AT-group benifited much more than the controlgroup for their health.
EK-Number: 21-200 ex 09{10

INTRODUCTION
Autogenic Training (AT), by the German psychiatrist and neurologist J.H. Schultz, is an autosuggestive specific relaxation method (2010). It consists of 7 basic exercises. By means of single, quiet, imaginary formulas, different body parts should be brought unintentionally and autonomously to a psycho-physiological relaxation. Krampen (2013) generally distinguishes between two categories of relaxation in everyday life by having them divided as unsystematic relaxation treatments and as systematic relaxation techniques. The unsystematic relaxation treatments include activities such as napping, watching television and so on, which allow individuals a sense of well-being in their recovery phase. But there are many disadvantages in these applications. For example, a low stability, often quite a volatile and a short-lived relaxation effect. Also, the effect is quite individual especially in the experience of relaxation. Empirically, they are not systematically checked. In contrast, relaxation procedures such as Autogenic Training are of a high stability. They show good short, medium and long term effects especially with regular use. These effects relate to the balancing of the psychological and physiological relaxation response (Hoffmann, B 2012). Above all, they have been empirically tested with many people. This shows that the relaxation experience, which is systematically brought to individuals by learning a relaxation technique in detail and is not caused by a random effect, is repeatable and, therefore is a major advantage to the onset of conscious relaxation. This advantage is not only felt in healthy people, but also proves to be quite beneficial for the sense of well-being in depressed persons, as described in the literature. Stetter (2002), for example, could show in his meta-analysis of clinical outcome studies that AT has a positive influence on the non-clinical mild to middle depressive patient group, who waited for psychotherapy compared with a waiting group who didn't take part in AT. The results of this study from 1999 Krampen (2013) suggested a combination of a single psychotherapy with AT which was found to be better than a single psychotherapy without AT for the therapeutic outcome of depressed patients. In agreement with Stetter, based on the study of Krampen (1999), Morgan and Jorm (2008) confirmed about 38 different kinds of treatments on people with depression and the positive effectiveness of AT as well. Some decades back Völkel (1965) pointed out some important aspects of AT for depressed people. Following Schultz, the founder of AT, he underlined the difficulty of the confusing diagnostic connotations of the term depression for AT at that time. So both of them used for their case vignettes mainly patients with symptoms of a „depressive Verstimmung", i.e., sad mood. Thus Schultz referred only to particular symptoms such as „Insomnie", i.e., sleeplessness, „Organreaktionen", i.e., organic reactions not the whole clinical picture of a depression like it is used by ICD-10 today. Völkel mentioned K. Thomas (1960), a colleague of Schultz in his article who worked with people who were tired of life. He was able to observe good results from depressed people with the use of AT in groups. On one hand, these people could free themselves from their individual isolation, on the other hand, they learned in spite of initial troubles by „Zurücknehmen" (alternatingly tensing both arms -making fists- leading both forearms with the fists to the upper arms- spreading arms and opening their hands) to lose their aggressive inhibitions at the end of AT. Völkel also underlined that depressed patients could get support from the therapist by using AT as an external suggestive method at the beginning so that the patient could develop confidence to get over his/her depression. The therapist would give him the formulas verbally. When the symptoms wore off, it would be easier for the patient to get into the AT on his own. The patient would also develop a better understanding of his/her problems and by experiencing peace and quiet could distance himself/herself to the depressive disorder.This should help the patient from experiencing a „Pfropfdepression" , i.e., an additional sadness described by Frankl (1959). In agreement with Völkel, there are actually no contraindications for depressed patients learning AT, provided that a sufficient concentration and motivation is present. He stressed that especially in the presence of a reactive depressive mood, AT can lead by way of improving individual symptoms towards a more relaxed attitude and consequently, towards the improvement oft he bodily well-being. At the same time this can lead to an increase

in ones mental resonance capability. Later studies, (Farnè and Gnugnoli 2000, Farnè and Jimenez-Muňoz 2000 and Bühler 2005), dealt specifically with the change of the mental state under the influence of AT, clearly could find beneficial improvements after completion of the AT courses. Bühler (2005) could find, depending on the personality trait „neuroticism“ among other things, a decrease in depression awareness during and at the end of the AT course in individuals in a clinic for outpatients. These findings were consistent with Vökel‘s earlier assumptions. (These patients suffered, according to ICD-10, either mild depressive episodes (F32.00), dysthymia (F34.1) moderate occurance of agoraphobia (F40.0), mild social phobia (F40.1), mild anxiety disorder (F41.1), mild anxiety and depressive disorder (F41.2), mild of longer depressive reactions (43.21), mild anxiety and depressive reactions (F43.22) and moderate occurence of neurasthenia (F48.0).).. Krampen (2013) found in his study in 1991 a decrease in the tendency towards depression as well. He describes a reduction of psychological and psychosomatic symptoms, an increase of positive change in their own experience to relax and in their state of health through participation in the AT. Goto et al. (2009) reported in a clinical case study the succes of a woman with hearing problems and major depression using AT and antidepressants. A psychophysiological study by Huber and Cramer (1990) showed that participants in a student population on AT had different relaxation reactions. So the relaxation response was in some cases accredited to the heart rate, while others in the relaxation phase reacted strongly with electrodermal and electromyographic activity.There were also participants who showed no psychophysiological responses and participants who produced a sympathetic activation instead of a relaxing effect. These results were not related to personality traits, which were measured with the Minnesota Multiphasic Personality Inventory (MMPI-Saarbrücken, 1963). It was, therefore, assumed that the subjective state of health measured by the psychological self-assessment questionnaires is not accompanied by psychophysiological findings. However, Schlamann et al. (2006) could find significant differences in the cerebral excitement in fMRI with AT-skilled to AT non-skilled in the first two basic exercises of AT in specific cortical areas. Due to the specific cortical activation findings, Schlamann et al. concludes, that the AT using a type of auto-suggestion actually has an "organic" effect. A study by Neuser and Kemmerling (1998) dealt in detail with the implementation of an abridged form of AT. They assume that students often suffer from attention disorders and for the achievement of physiological and / or psychological relaxation effects, according to Krampen and Ohm (1985), it is not necessary to learn the entire basic exercises of AT. This might just be an advantage for people with depressive symptoms, who often suffer from concentration problems. Many studies deal with the cause of the emergence of depressive symptoms. Frequently stress was investigated as a trigger. Frederic et al. concluded in 1977 that depressive symptoms correlate closely to social stressors specifically marriage and parenting. Depressive symptoms increased in proportion to the number of social stressors, which was an important finding for the consulting activities. Tennant (2001) emphasizes a relationship between job stress and the development of depression between 1980 - 1999. Another study of Rojo-Moreno et al. (2002) compared non-depressed patients with depressed. They found that the depressed had been exposed to significantly more frequent stress in the past 12 months. So they concluded that stress events are a major factor in the development of depression. Farabaugh et al. (2004), as well, found in their study that patients suffering from atypical depression experienced significantly more frequent stress than those patients who did not have atypical features of depression. In addition, it was found that patients with major depression and anger attacks had clearly more stressful experiences in their lives, than patients without anger attacks. Also non-specific symptoms of stress at work that have occured in prior can trigger a manifest depression, emphasized Unger (2007). Risk factors for the onset of stress that can lead to mental health disorders in the workplace were interpersonal conflicts at work, high demands in the job with low social support, change in workschedules, discrepancy between required workload and its recognition by the company, as well as insufficient job security. Even high levels of subjectively experienced stress, which is characterized by uncontrollability, unpredictability and flooding of stimuli and a low self-esteem causes stress in the work and leads to an increase in depressive symptoms (Lee, 2013).In a recent major study by Seib et al. (2014) about stress, lifestyle and the quality of life in older women in Australia, they could show that older women in critical life events, such as natural disasters, etc., where they felt helpless and scared, had a significantly higher BMI and significantly more chronic diseases (heart disease, strokes, breast cancer, diabetes, arthritis and osteoporosis). Prolonged stress also led to the development of depressive states and insomnia. According to the transactional stress model of Lazarus R. (1984), a person can appraise a situation, - a stress situation - negatively. If there is a negative appraisal and the situation is considered threatening, the coping strategies, depending on existing personal resources, were used correspondingly poorly. The following study of Lytwyn et al. (2000) was able to prove that the AT, on some coping measures, clearly had a positive impact on the participants during the course. For example, there was a decrease in the search for social support, which suggests a better self-competence and an increasing autonomy. Other negative coping strategies decreased as well (e.g. social isolation and aggression a product of uncontrolled emotion) under the influence of AT. The psychic and somatic state through the significant decrease of physical, mental and pain load also proved very beneficial for the participants of AT compared to participants in a painting course as a control group. From these results, it turns out to be very important to examine more closely individual effects of AT in hospital patients who are suffering from depression. There are few clinical studies on the effect of AT in depressed patients but according to the study by Huber and Cramer, individually specific

response patterns were observed. This study was limited to the first two standard exercises, - heaviness and warmth in the limbs- within a short learning phase. This study emphasizes that depressive individuals who have difficulty with the first exercise „heaviness of limbs“ should move on quickly to the next standard exercise „warmth of limbs“ so that they can benefit from the combination of both exercises as soon as possible. The length of hospital stay, taking into account medical needs, must also be kept to a minimum due to high costs. Therefore, the aim of this study is to examine the mental and somatic effectiveness in teaching a shorter form of AT to inpatients towards the end of their stay, while they are experiencing a mild depressive state.Another reason for this study is a lack of experimental research work of the influence of AT on coping with stress in depressive inpatients. So in this study, the psychological effect of AT will also be measured by the quality of coping with stress strategies, which were often seen as the cause in the development of depressive symptoms in people.

METHOD

Subjects

For this pilot study, voluntary adult depressed female and male inpatients from a psychiatric hospital were used. The age was 29 – 55 years. The antidepressant medication was comparable. None of them had prior experiences in relaxation techniques. Originally they were chosen randomly, but in order to get a proper comparability between the two study groups (EG and CG), they were classified according to the severity of depression after BDI. Thus, both treatment groups reported at the beginning of the study a slight depression based on BDI. After exclusion of severely depressed persons or patients who did not participate daily, 6 people remained in each study group for the evaluation of this study.

Relaxation Training

The basic level of AT as a specific relaxation method contains 7 stages of relaxation exercises and a pre-exercise in order to receive clearance from everyday thoughts.These exercises consist of certain formulas which directly exert an increasing influence on autonomic body functions in terms of relaxation. For this pilot study, a short form of AT consiting of *Pre-exercise* using a soothing mental image, *Heaviness in the limbs* focused on the feeling of heaviness in the limbs and *Warmth in the limbs* cultivated the sensation of warmth in the limbs was used. On the other hand, the relaxed seating with closed eyes compared to the AT method is one of the non-specific relaxation techniques which does not have to be learned. The effect is extremely subjective and of variable duration.

Experimental Procedure

Prior to the experimental relaxation sessions, the patients of each treatment group had to complete several questionnaires. These questionnaires were Beck-Depressions-Inventar (BDI by Hautzinger, M et al. 1994), a self-assessment questionnaire to determine the severity of depression. Änderungssensitive Symptomliste (AT-SYM from „Diagnostisches und Evaluatives Instrumentarium zum Autogenen Training (AT-EVA)“ by Krampen, G 1991) was used to measure different psychic and somatic complaints and Streßverarbeitungsfragebogen (SVF 120 by Janke et al. 1997) to record different kinds of coping with stress strategies. The experimental procedure is presented in Table 1.

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Table 1: Experimental procedure

Monday 13h	Fill out the questionnaires: BDI, SVF 120 and AT-SYM. Both groups preliminary talk about AT or relaxed sitting ATgroup: Preliminary exercise and Exercise: Heaviness in the limbs (2 minutes) Control group: relaxed sitting with closed eyes (2 minutes) Both groups: brief conversation afterwards
Tuesday 11h	ATgroup: Preliminary exercise and Exercise: Heaviness in the limbs (2 minutes) Control group: relaxed sitting with closed eyes (2 minutes) Both groups: brief conversation afterwards
Wednesday 11h	AT group: Instruction of the exercise Warmth in the limbs; Pre-exercise and both exercises Heaviness in the limbs and Warmth in the limbs (3-4 minutes). Control group: relaxed sitting with closed eyes (3-4 minutes) Both groups: brief conversation afterwards
Thursday 11h	AT group: Pre-exercise, Heaviness in the limbs and Warmth in the limbs (3-4 minutes). Control group: relaxed sitting with closed eyes (3-4 minutes) Both groups: brief conversation afterwards
Friday 11h	AT group: Pre-exercise, Heaviness in the limbs and Warmth in the limbs (3-4 minutes). Control group: relaxed sitting with closed eyes (3-4 minutes) Both groups: brief conversation afterwards Fill out again the questionnaires: BDI, SVF 120 and AT-SYM.

Data analysis

For the statistical analysis raw data and normalized standard values of the psychological questionnaires were used. Univariate analysis of variance with repeated measures (SPSS 20) and the post-hoc analysis Newman Keulstest were applied for the statistical evaluation of these data.

RESULTS

Univariate analysis of variance with repeated measures of the questionnaires of the two groups showed following results:

Performance and behavioral difficulties

A significant main effect a decrease of „Performance and behavioral difficulties“ were found in the course of 5 days ($F1 / 10 = 24.535$; $p < 0.001$). There was a significant interaction between the results of the course and the two groups ($F1 / 8 = 5.256$; $p < 0.045$). At the 1st measurement time there appeared to be no significant difference between both groups. A significant improvement was found, however, in the EG between the 1st and the 2nd measurement time ($W = 18.1$; $df = 8$, $p < 0.01$), which did not exist in the CG. The EG was clearly at an advantage by a significantly better performance compared to the CG at the 2nd measurement time point ($W = 9.51$; $df = 8$, $p < 0.05$). There was also a significant difference between the CG at the 1st measurement time and the EG at 2. measurement time ($W = 5.64$; $df = 8$, $p < 0.01$).

Problems with self-determination and control

A significant main effect with „Problems with self-determination and control“ revealed itself in the course ($F1 / 10 = 14.716$; $p < 0,003$) along with a significant interaction between the groups and the individual time points ($F1 / 8 = 6.541$; $p < 0,028$). The results of the Newman Keulstest showed also an advantage of EG by a significant decrease in „Problems with the self-determination and control“ between the two measurement time points ($W = 17.67$, $df = 8$, $p < 0.01$). There was also a significantly better performance of the EG at the 2nd measurement time point ($W = 16.07$, $df = 8$, $p < 0.01$), which is also significantly better than the results from the 1st time the measurement was taken of the CG ($W = 13.53$, $df = 8$, $p < 0.01$).

Pain loads

In order that the two groups had a similar initial position, the initial value of a patient (1.9 standard deviations above the mean) was eliminated because it was extremely high. So 5 patients remained in the EG and 6 patients in the CG. The „Pain load“ decreased significantly between the two time points ($F1 / 9 = 16.241$; $p < 0.003$). There is also a significant interaction between the groups and time. EG showed a significant decrease of pain between the 1st and 2nd time of measurement ($W = 18,1$; $df = 7$, $p< 0.01$).For the second time of measurement EC fared significantly better than CG. EC clearly suffered less pain than CG ($W = 13,53$; $df = 7$, $p < 0.01$) at the 2nd measuring point. There was also a significant decrease of pain between CG 1st measuring point in time and EG 2nd measurement ($W = 16,07$; $df =7$, $p < 0.01$).

Downplaying
There was a significant interaction between the groups at the 2nd measuring point in time (W = 11.77; df = 8, p < 0.05) in "Downplaying". The EG clearly outperformed the CG.

Other results showed that both groups had a significant increase in positive symptoms and stress management measures as well as a significant decrease in negative mood and of negative coping strategies. The individual results are shown in tables 2, 3 and 4.

Table 2: Means from BDI of both measuring times from EG and CG at the beginning and the end with presentation of the p-values of the univ. analysis of variance with repeated measures in the course of time and between groups over time.

	EG (x̄)		CG (x̄)		Time (T1/T2)	Time x Group
	T1	T2	T1	T2		
BDI	16,66	5,6	18,66	14,16	p < 0,008**	p < 0,193

x̄ : mean; T1: measuring time 1, T2: measuring time 2, Time (T1/T2): Values between course of time and between both groups, p < 0,001**, p < 0,05*, Te: Tendency

Table 3: Means from AT-SYM of both measuring times from EG and CG at the beginning and the end with presentation of the p-values of the univ. analysis of variance with repeated measures in the course of time and between groups over time.

	EG (x̄)		CG (x̄)		Time (T1/T2)	Time x Group
	T1	T2	T1	T2		
Physical and mental exhaustion	75,83	52	69	58,66	P < 0,000**	P < 0,063 Te
Nervousness and inner tension	70,16	49,83	71,16	59,33	P < 0,003**	P < 0,323
Psycho-physiological dysregulation	63,83	51,33	63,5	59,33	P < 0,002**	P < 0,069 Te
Performance and behavioral difficulties	70,5	49,16	69	61,16	P < 0,001**	P < 0,045*
Pain load	60,16	46,33	61,16	58,33	P < 0,003**	P < 0,040*
Problems of self-determination and control	69,83	51,5	69,16	65,5	P < 0,003**	P < 0,028*
Total value	70,83	51,5	72,5	63,5	P < 0,000**	P < 0,084 Te

x̄ : mean; T1: measuring time 1, T2: measuring time 2, Time (T1/T2): Values between course of time and between both groups,p < 0,001**, p < 0,05*, Te: Tendency

Table 4: Means from SVF 120 of both measuring times from EG and CG at the beginning and the end with presentation of the p-values of the univ. analysis of variance with repeated measures in the course of time and between groups over time.

	EG (x̄)		CG (x̄)		Time (T1/T2)	Time x Group
	T1	T2	T1	T2		
Trivialisation	38,83	43,83	39,16	43,16	p < 0,106	p < 0,487
Play down	39,83	48,66	40,83	36,83	p < 0,378	p < 0,034*
Devensiveness	44,16	55,5	46,66	48,66	p < 0,143	p < 0,292
Deflection	47,5	51,66	51,66	51,16	p < 0,351	p < 0,460
Substitute satisfa.	38,83	42,66	49,83	49	p < 0,363	p < 0,169
Selfaffirmation	41,66	51	51	52	p < 0,045*	p< 0,095Te.
Relaxation	40,83	55	42,53	48,83	p < 0,009**	p < 0,244
Situation control	40,33	51,83	43,5	47,66	p < 0,009*	p < 0,158
Rection control	53,66	52,5	47,33	45,33	p < 0,603	p < 0,890
Pos. Self-instruct.	37,66	47,83	42,66	45,33	p < 0,163	p < 0,400
Soc. Support needs	47	57,33	47	51,83	p < 0,009**	p < 0,268
Avoidance	52	62,5	53	59	p < 0,648	p < 0,416
Flight	60,16	55,33	65,16	61	p < 0,153	p < 0.911
Soc. Isolation	62,83	54,5	63,16	60,33	p < 0,047*	p < 0,29
Mental Retention.	64,16	53,33	62,16	58,5	p < 0,01**	p < 0,15
Resignation	62,5	52,83	60,66	58,16	p < 0,043*	p < 0,203
Self-pity	58	52,16	61,33	55,33	p < 0,004**	p < 0,959
Self-blame	60,16	50	58,16	51,66	p < 0,017**	p < 0,542
Aggression	45,33	45,66	48,16	47,83	p < 1	p < 0,789
Taking drugs	61,66	54,16	59,5	54,66	p < 0,045*	p < 0,632
Pos. Strat.	37,16	50,16	41,33	45,66	p < 0,012*	p < 0,157
Neg. Strat.	64	53,83	65,5	59,5	p < 0,016*	p < 0,474

x̄ : mean; T1: measuring time 1, T2: measuring time 2, Time (T1/T2): Values between course of time and between both groups, p < 0,001**, p < 0,05*, Te: Tendency

DISCUSSION

The results show that the group that participated in this shorter form of the AT as a specific relaxation method had a clear advantage through the decrease of some problems and difficulties against a group which relaxed nonspecifically. It also confirms the opinion of Krampen (2013) that the unsystematic relaxation method will not always be positive in actual use situations. Negative emotions often cannot be turned off and cause burdens. Krampen also pointed to the problem that the unspecific relaxation only works temporarily and shows no long term effect. Especially when people are depressed it is important to distance themselves from their negative emotions and to develop more self-confidence and hope for an independent life again. Through the deliberate attention given to the body during the AT the ability to concentrate increases. In addition the conscious physical sensations from single relaxation reactions help to distance the patient mentally from negative thoughts which promote negative feelings. The results of the shorter form of AT also confirmed that it is possible to produce relaxation effects within a shorter time span. This is a good option for depressive patients because they often suffer from concentration problems. According to Schultz, the entire feeling and experience was restricted to the physical relaxation by the AT, which leads to "organismic change" a psycho-physiological total switching or as it is called today to a relaxation response. The effects of this "organismic switching" or relaxation response cause a vegetative functional transformation of an ergotropic power state towards a trophotropic recovery state, which dissolve, for example, muscular cramps and so leads to mental self-restraint, fear reduction and a "resonance damping of emotions". The reduction in anxiety is reflected by the significant decrease in the values of the scale performance and behavioral difficulties and the scale problems in the self-determination and control at the AT students compared to participants of an unspecific relaxation in the course of 5 days. The other aspect of "resonance damping of emotions" which Krampen (2013) describes not as a general loss of feeling, but as regulating exuberant feelings which commonly occur in a depressed state as well. Through the clearly better performance due to general

decrease of negative feelings in these two scales, he saw an advantage when applying the short form of AT. These results confirm the work of Farné and Gnugnoli (2000), Farné and Jimenez-Muňoz (2000) and Bühler (2005), which showed an improvement in the mental state of the participants after completion of the AT-courses. Even with the stress management measures, the AT group shows an advantage over the control group. This may have been caused by the conscious calming effect on the muscle tone and the vascular muscle relaxation of the two exercises of AT having decreased the arousal of the autonomic nervous system, which is connected with the development of pain (Hoffmann B, 2012). This result of pain reduction with the aid of the AT is also confirmed by the meta-analysis of clinical outcome studies of Stetter and Kupper (2002), which showed that pain could be positively influenced with AT. The positive coping strategy "Downplaying", which assesses the tendency of one's reactions to stress compared to others as less or more, this was clearly higher in the AT group the 2nd time of measurement (after 5 days) than in depressive persons who participated in a non-specific relaxation method. This downplaying consequently decreased which could be due to an early hospital discharge, which could be related to a certain degree of insecurity when they soon have to shift for themselves at home. However, the better performance of AT group by a more positive outlook by means of downplaying a stressful situation could be interpreted by AT as the result of a psychological self-immobilization and better regulation of excessive feelings in the sense of "Resonance Damping of Emotions". Using a more optimistic attitude towards different demands placed on them, they can be managed more easily. Generally, both groups developed a clear increase of positive coping measures, but the AT group tended to outperform compared to the control group. Above all, if there is an observable reduction of fear by increasing the patient's composure, as it can be observed under the influence of AT, it is much easier to deal with problems (Binder H. and Binder K., 1993). Another aspect of AT, which has a very positive influence on everyday life, Sedlak (1990) refers Bartl's concept of the basic human needs for warmth, rhythm and constance, which are observable especially in times of crisis. These properties are due to the need for contact and security (receiving "Warmth" from others), the need for competence while mastering a difficult task (without his "Rhythm" being interrupted) and the need for a sence of purpose ("Constance", for example, refers to the meaning of life). Sedlak emphasizes the dialogical-communicative character of AT, which evolved from the increased "Warmth" composure brought on by relaxing. People learn that with AT when they are more relaxed, and they are more able to connect with others by letting go their "Ego". The increase in longing for more contact is due to the development of greater serenity. This points to a positive development in the communication of depressed individuals. This aspect of the communication, which is encouraged by AT, according to Sedlak, could be particularly important for depressed people to interpret stressful situations with the help of others. By consciously opening up to others using the application of the coping strategy "Downplaying" in comparison with others as demonstrated in this study, meeting and thus assessing their situation more optimisticly and thus coping with stressful situations better.

The results of this study of the learning of a short form of AT as a systematic method of relaxation in depressed inpatients have a distinct advantage over the use of a non-systematic relaxation activity, confirming Krampen's version (2013) to distinguish between systematic relaxation techniques and unsystematic relaxation activities. Since this was a pilot study with a small number of cases, further investigations with a larger sample size would be interesting to see if the results would lead to the same conclusion of the encouraging effects of a short form of AT in hospitalized depressed patients.

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Linking Programs Eureka And Erasmus+ In Internationalization Of Education

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ABSTRACT
A unique apparatus for detecting anomalies in a porous medium using electrical impedance spectrometry was implemented at the Faculty of Civil Engineering of BUT through the solution of projects in the EUREKA program. This program is oriented to applied research with the necessary participation of foreign partners; work is carried out in both laboratory and field conditions. Foreign students of all forms of their education are also involved in research activities through the Erasmus + program. In this work they need knowledge in various areas of education, such as physics, mathematics, hydraulics, materials engineering, and more. Given that it is also a practical application of theoretical knowledge with a very attractive potential in the technical field, these activities are interesting for students.

Keywords: Erasmus, Internationalization, Education

INTRODUCTION
The educational policy in advanced countries is part of the public policy and results from two inter-related processes. These are a process of upbringing and a process of learning, the results of which is education. The level of education becomes the characteristic of an individual or a given population. From the economic point of view, it is a typical example of non-market goods that are a source of innovations and changes in the quality of labor force; in addition to it, it has also fundamental significance for the development of a human personality and the quality of life in a given society (Krebs, 1997).
The following principles can be included in the basic principles of most educational policies (http://www.inflow.cz/principy-vzdelavaci-politiky-v-demokratickych-zemich) of advanced states:
• of lifelong learning – in the society a demand for learning is growing and is becoming more varied; the need for steady learning is caused by a fast development of sciences - knowledge is rapidly becoming obsolete and is being replaced by newer one; education becomes a lifelong process;
• of equal chances in access to education – the right to education and equal chances in access to education are already enshrined in the Charter of Fundamental Rights and Freedoms; the chance for education should be equal to everyone; it depends on the individual how he/she will use it;
• of individualization and differentiation in education – every human is different, has different abilities, prerequisites, intelligent potential, and the like, therefore individual education is important; the same form of learning cannot be efficient for everyone; and
• of internationalization in education – it understands education as a supranational affair that helps people of different nationalities, races, religions, etc., coexist.

INTERNATIONALIZATION OF LEARNING
The issue of internationalization has been topical in the developed countries of Europe as well of the world for a long time. The internationalization and electronization of capital markets, the intensification of international relations in the area of science and technology, the creation of the common market (European, global, etc.) and the relating need of the professional mobility of people significantly strengthen the position of internationalization in education. It has also become a priority of the Czech educational policy, as mentioned in the Long-Term Plan of the Ministry of Education, Youth and Sports (2005), including subsequent updates (http://www.msmt.cz/vzdelavani/ vysoke-skolstvi/dlouhodoby-zamer-ministerstva), which is also the crucial document for preparing and updating the long-term plans of individual universities/colleges.
The term internationalization in education, however, denotes more trends (Janebová, 2008), (Teichler, 2004), (Webber, 2004), (Knight, 2003). In the area of schooling, not only in the area of higher education, on which this paper is focused, internationalization is perhaps perceived in the last decade more intensively particularly in

relation to the Lisbon and Bologna Declarations (http://www.msmt.cz/vzdelavani/vysoke-skolstvi/bolonsky-proces-1) and to the implementation of the ECTS (European Credit Transfer System) or to the thoughts on the "Euro Passport" on the level of professional education and to a number of international relations and exchanges between individual schools (Gavalcová, 2011). In June 2012, the British Council, in cooperation with the consulting firm Oxford Economics, published a new report on the assumed worldwide development of higher education, mobility of students and cooperation in research during the ongoing decade (until 2020) with the title The Shape of Things to Come: Higher education global trends and emerging opportunities to 2020.

Based on the analysis of the latest demographic and macroeconomic trends, the report identifies the changing paths (from where – to where) of foreign students, the fastest-growing educational systems and also which countries will open most to international cooperation in research and education, but sometimes the attractiveness of destination leaves aside the quality and professional benefit of stay; the positive side of the current model is greater emphasis on language skills (http://www.britishcouncil.org/education?iheeducationintelligence/shape-of-things-to-come). The growth of participation in tertiary education as well as the study at universities/colleges abroad will continue, but its direction will substantially be changed and the role of new economies will be highlighted. Competition will considerably be increased and will compel even well-established and best European universities/colleges to extend their strategies of internationalization. They must be supported by a corresponding governmental policy and principles and mechanisms of research financing. The extent and significance of international cooperation in research will substantially be increased (https://vsmonitor.wordpress.com/2012/10/03/ rozmach-internacionalizace-bude-pokracovat/).

In the text below, internationalization is thus perceived in a very narrow range of activities in conjunction with the physical mobility of students of the Faculty of Civil Engineering at Brno University of Technology (BUT FCE) and foreign universities/colleges of similar specialization, and with cooperation between academic institutions and scientific-research activity.

ERASMUS+

Erasmus+ is a new program of the European Union (EU) for education, professional preparation, youth and sport for a period of 2014 – 2020 (http://ec.europa.eu/programmes/erasmus-plus/discover/index_cs.htm), which was commenced in January 2014. The objective of the program Erasmus+ is to develop skills of young people and to increase their chances in obtaining a good job, and also to modernize education, professional preparation and work with young people. The duration of the program is seven years and has a budget amounting to 14.7 billion euros; as compared to the current state, this represents a 40% growth, indicating the interest of the EU to invest in the given area. Within the program Erasmus+, more than 4 million Europeans gain an opportunity to enrich their study, professional preparation or practice with experience from abroad.

Erasmus+ supports supranational partnership between institutions concerned with education, professional preparation and youth so that deeper cooperation can be established between the world of education and the labor market and that they can be interconnected, which is necessary for solving the disharmony between the needs of the European labor market and the types of classification which are available in Europe. It also supports the efforts of the member states for the modernization of education, professional preparation and work with young people. In the area of sport, it is oriented to local physical education and projects which are devoted to the solution of negative phenomena which can be encountered in many countries (influencing of the results of competitions, doping, violence, racism, etc.).

In this integrated form, Erasmus+ brings more opportunities of cooperation across the branches of education, professional preparation, youth and sport. Due to simpler rules it is easier to take part in it.

EUREKA

The program EUREKA (http://www.eurekanetwork.org) is one of the instruments of European strategy and cooperation in the area of applied and industrial research and innovation activities. The objective of the program is to support international cooperation between European industrial enterprises, research institutes and universities/colleges and thus to create conditions for increasing the performance efficiency and competitiveness of European industry and for developing its joint infrastructure. The program EUREKA was founded in 1985 and now it associates cooperation of 40 member countries and the EU Commission. Some other countries have the status of associated membership. The Czech Republic has been a full member since 1995 and ranks among the most active member countries (http://www.msmt.cz/vyzkum-a-vyvoj/eureka-cz-lf). The EUREKA projects are oriented to the areas of the private as well public sectors. Their output must be new top products, technologies or services capable of commercial application. In general, they are focused on information technologies, new materials, the issue of the environment, biotechnologies and medical technologies, robotics and automation, communication technologies, power engineering, transport and lasers.

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E!4891 AND E!7614 PROJECTS AND THEIR RESULTS

The workplace of the Laboratory of Water Management Research of the BUT FCE Department of Water Structures was intensively involved in the program EUREKA in 2006. At the present time, the current projects are as follows:

• E!4981 entitled "A Computerised Measuring System for Analysis of Chosen Characteristics and Processes in a Porous Environment by the EIS Method" (http://www.eurekanetwork.org/project/-/id/4981), development and construction of a set of monitoring systems using the electrical impedance spectrometry method for application under real conditions, was completed at international level on 11.3.2013; participating countries – Belgium, Switzerland, Czech Republic, Italy and Slovak Republic; nominated in 2014 for the competition EUREKA Innovation Award 2014 amongst 11 best projects in the category "Cluster, Eurostars and Individual Projects", now in the phase of sustainability; and,

• E!7614 entitled "A System of Monitoring of Selected Parameters of Porous Substances Using the EIS Method in a Wide Range of Applications" (http://www.eurekanetwork.org/project/-/id/7614), development and construction of a monitoring system based on the method of electrical impedance spectrometry for monitoring selected parameters of porous substances for application in conditions of a real environment, agriculture and food industry, is solved in the project, running since 22 June 2012; participating countries – Belgium, Bulgaria, Switzerland, Czech Republic, Spain, Italy, Latvia, Philippines and Slovak Republic.

The theme of the solved projects results from the need of a deeper knowledge of processes that take place in porous environments due to changes in water content. The tool for obtaining the knowledge is an indirect method – electrical impedance spectrometry (EIS) and the means is a new measuring apparatus with a Z-meter device. The outputs of solution have a direct continuity with the issue of the safety of the operation of earth-fill dams, protection against floods, avalanche danger, monitoring of drought or the need for soil moisture of plants, treatment of wooden building structures infested by wood-decaying insect, etc.

BRNO UNIVERSITY OF TECHNOLOGY, FACULTY OF CIVIL ENGINEERING, AND INTERNATIONALIZATION OF EDUCATION

The Faculty of Civil Engineering is the traditional and historically the oldest faculty of the Brno University of Technology (BUT) seated at Veveri 95, 602 00 Brno, Czech Republic. Its history is closely connected with the history of BUT, which falls into the year 1899 when Emperor Franz Joseph I signed the Decree of the Establishment of the Czech Technical University in Brno. This was the first Czech higher education institution.

The Brno University of Technology supports internationalization of studies through ECTS (http://www.vutbr.cz/studium/ects-katalog), participates in EU projects such as Tempus, Leonardo, Erasmus, CEEPUS, Aktion, DAAD partnership, studies for two degrees and the Euro-engineer degree, organizes lectures of visiting professors, provides courses for foreign students in English, and organizes international conferences. Research and development activities at BUT center around non-specified research receiving funding from the state budget. Attention is also given to research projects that are clearly defined and supported by contracting authorities such as the Czech Science Foundation, grant agencies of the Czech government ministries, international grant agencies, and scientific and research programs. A major part of applied research is initiated directly by industrial companies both domestic and international.

DOMESTIC STUDENTS' THESES IN CONJUNCTION WITH THE GIVEN PROGRAMS

The theses of students of the Institute of Water Structures at the Faculty of Civil Engineering, combining both the above-given programs, permeate through all levels of education (Tab. 1); they are thus a part of the study program of Bachelor's, Master' and doctoral studies, including a program of lifelong learning (Fig. 1) and the University of Third Age.

Table 1: Theses of Czech students carried out in conjunction with projects E!4981 and E!7614 in the years 2010 to 2014.

	E!4981	E!7614
Bachelor's Thesis	5	2
Master's Thesis	5	3
Doctoral Thesis	2	1

Students engage through them in scientific-research activity in which they acquire work basics in the area of research, but they have also the possibility of assessing applied research that requires the practical application of the result obtained. A bonus for them is to be involved in an investigators' team of companies (Fig. 2) and in inter-university cooperation (e.g. with Masaryk University and Mendel University in Brno, University of Defense, Palacky University in Olomouc and Czech Technical University in Prague), including publication activity and the presentation of results at domestic and foreign conferences and workshops.

Indispensable in the process of education are also science popularization events, in which students are also involved. These are e.g. The Night of Scientists or The Days of Open Doors, in which prospective applicants have

an opportunity to visit laboratory facilities twice a year, including a professional lecture on study at a university and a students' commentary. Laboratory models are also prepared for children from kindergartens and students of elementary and secondary schools during these events. These groups, however, have an opportunity to visit laboratories, including a lecture, practically at any time after agreement. Tutorial courses for groups of employees of companies related to water management practice are also popular.



Fig. 1: Physical model of a double rain separator on a length scale of 1:10 and a trainees lifelong learning course.



Fig. 2: Measurement on a physical model of a fish ladder on a length scale of 1:20 and pollution transport in soil.

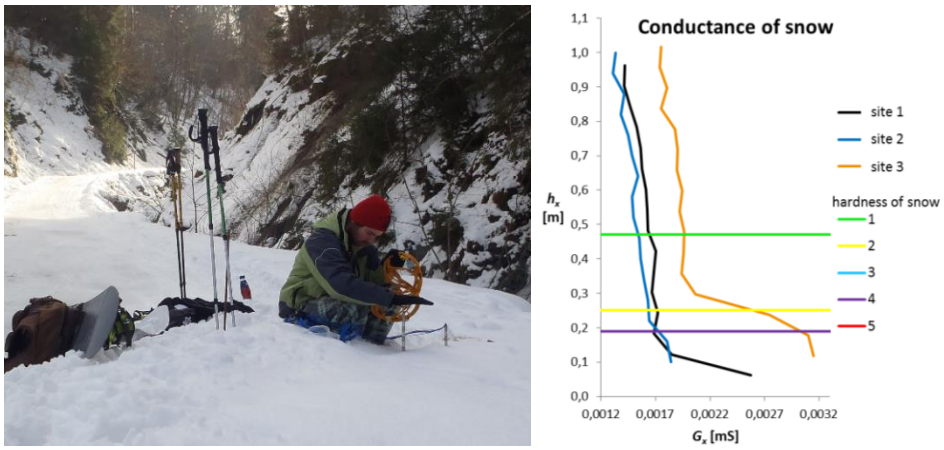

Fig. 3: Measurement of snow layers.

FOREIGN STUDENTS' THESES RELATED TO THE GIVEN PROGRAMS

Particularly projects related to practical training in the water management laboratory and to field measurements gained popularity amongst foreign students (Fig. 4), despite the fact that work for them is not easy. On the one hand, the teaching of the required subjects is usually accredited only for the Czech language; on the other hand, experimental research in both of the above-mentioned environments is time-consuming; students must learn how to master a new measuring technology usually not known to them; and last but not least, work is demanding of theoretical knowledge from many scientific disciplines because it is a combination of them. In other words, e.g.

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when evaluating the safety of operation of earth-fill dams, it is necessary to have the knowledge of hydraulics of groundwater and soil mechanics, but at the same time to have the knowledge of measuring methods and apparatuses monitoring variables required and suitable for performing a risk assessment. It is thus also necessary to have the knowledge of mathematics, physics and electrical engineering.
Students also highly appreciate excursions to hydro-engineering structures or to water management plants and personal meetings with representatives of companies and attach great significance to them (Fig. 5).

Table 2: Theses of foreign students carried out in conjunction with projects E!4981 and E!7614 in the years 2010 to 2014.

Country	E!4981	E!7614
Belgium – KHBO Brugge-Oostende	2	0
Portugal – Universidade de Trás-os-Montes e Alto Douro, Vila Real, Instituto Politécnico de Leiria	8	0
Spain – Technical University Granada, Technical University Barcelona	1	5
Latvia – Riga Technical University	0	1
Bulgaria – University of Architecture, Civil Engineering and Geodesy Sofia, TU Varna	0	1



Monitoring of the aeration process in a wastewater treatment plant at Modrice by a CZ student from TU Granada, Spain



Monitoring of soil structure and moisture content changes at the Zabcice site by a CZ student from TU Barcelona

Fig. 4: Examples of field measurements.

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Fig. 5: Wastewater treatment plant at Laa an der Thaya - an excursion organized for students from Portugal.

Foreign students who use credited subjects in our country to elaborate projects – given are selected papers of students from universities in Granada and Barcelona (Cobos, 2014), (Quijada, 2014), (López, 2014), (Llinares, 2014) and final papers of study (Bolle & Strypsteen, 2013), papers of students from KHBO, B (Fig. 6) – take active part in work, get to know the issue of practical experience, laboratories and clusters. They thus have an opportunity to get to know the working atmosphere, environment and life of companies. On the other hand, company employees are invited as external examiners or members of commissions of defenses of students' papers (Fig. 7). Just the system of defenses of final papers is well and sophisticatedly elaborated at the university (Fig. 6). Foreign students manage to adjust to this trend after initial embarrassment, see a list of some of their papers in the references.

Within the laboratory of water management research, we work with foreign students individually even if the tutorial group is not full; the topics of projects are selected in relation to the applicability of work to study at the principal university/college.



Fig. 6: Defense of a final paper of Belgian students before a commission composed of representatives of universities (BUT, CZ and KHBO, B) and professional experts (from GEO*test*, a.s. and Povodi Moravy /Morava River Basin Agency/, s.p. - Agricultural Water Management Administration).

CONCLUSIONS

For the reason of maintaining a high standard of teaching and research, meeting the needs of domestic and foreign students or solving global problems of research, it is necessary to steadily and greatly invest in education. Universities/colleges in many countries, however, have to work in an environment of financial uncertainty and savings. So far there are plenty of capacities of how to use the excellence of universities/colleges in research in commercial activities, and thus to increase their potential for economic growth. Therefore, also for the future, emphasis will be placed on mutually beneficial cooperation in teaching and research and on providing tertiary education of students in their home countries, namely in the form of providing online study programs, establishing

detached premises abroad, founding new institutions jointly with foreign partners, etc. These steps extend the concept of internationalization and open new opportunities on the market.

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Looking For A Specific Measure For Assessing Sources Of Stress Among Teachers: A Proposal For An Italian Context

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ABSTRACT
The teaching profession is now recognized as a highly stressful occupation, mainly due to the increase in work demands and interaction with students. Given that in Italy there is a scarcity of validated instruments that specifically measure school-related sources of stress, specifically Workload and Class Stress, this study proposes a first contribution for the validation of the Teacher Stress Inventory (TSI) in the version proposed by Klassen and Chiu (2010), including 7 items. To accomplish this, the items of the instrument were back-translated from English into Italian. A survey among Italian primary and secondary school teachers (n=269) was conducted in order to explore the psychometric proprieties of the Italian version. Results of the Exploratory Factor Analysis revealed, in accordance with expectations, a bi-dimensional factor-structure underlying the 7 items. Specifically, the first factor extracted was Classroom Stress (4 items), explaining the 59.37% of the variance, whereas the second factor comprised all the 3 items of Workload Stress (variance explained: 15.01%). All Cronbach's alphas were satisfactory ($\alpha > .80$). In addition, the significance of the correlations of both scales of TSI with burnout and another measure of stress provided evidence for predictive and convergent validity. Overall, these results suggested the validity and applicability of the instrument also in the Italian context.

INTRODUCTION
In the last decade, growing attention has been paid to occupational wellbeing in the educational sector, primarily due to the link between the quality of the teaching process and students outcomes, not only in terms of learning process, but also for the general academic and psychosocial wellbeing of the latter (Caprara et al., 2006; Denny et al., 2011; Reyes et al., 2012; Converso et al., 2014).

Like other "helping professions", teaching is a highly stressful occupation (IARD, 2003). Specific sources of stress that account for the onset of burnout, mental illness, and job dissatisfaction could be identified either in the social or in school-classroom characteristics. Teachers seem to experience – more than any other category – social disvalue and poor acknowledgement of their commitment from school administrators (Zurlo et al., 2007; Cordeiro et al., 2002) along with the increased workload, the management of demands not directly related to the teaching process, often without a corresponding increase in salary or job security (Drago, 2006). Moreover, several studies showed that the daily interactions with students - most of all with their disruptive behaviors - colleagues and students' parents, have the main impact on their wellbeing (Boyle et al., 1995; Kokkinos, 2007; Hargraves, 2003; Otero-Lopez et al. 2008; 2010; Velasco et al., 2013). Several studies identified, as the main predictive factors of burnout among teachers, the student's inappropriate behavior and attitudes (e.g. Hasting, Bham, 2003; Kokkinos, 2007; Kyriacou, Sutcliffe, 1978a), the difficulty in dealing with potentially conflictive situations, and the lack of support, as emerged also from Chang's literature review (2009). In this sense, as teachers mainly link their goals and expectations to the quality of the educational process and in influencing and inspiring students, they may experience less meaningful work when have to deal with students' inattention and disinterest in learning (Pines, 2002). This is of primary importance given that the efficacy perceived in the daily interaction with students and in classroom management is also predictive of the quality of the learning environment (Caprara, 2003), job satisfaction (Skaalvik, Skaalvik, 2009) and intention to leave (Martin et al., 2012). Otherwise, knowing the sources of stress that teachers experience in the class context is also indicative of the general class social climate, which, as highlighted by the research on school effectiveness, is one of the major elements linked to student wellbeing and academic outcomes (e.g. Reyes et al., 2012; Way, Reddy, Rhodes, 2007).

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Despite this, in the Italian context, most of the instruments used in the school-research field, such as the JCQ (Karaseck, 1988) or the ERI (Siegrist, 1996), are actually shaped in relation to the general organizational health psychology literature that doesn't take into account the specific demands posed by the teaching profession. Even though all the dimensions considered by these tools emerge as important transversal characteristics of the work environment, it could be state that, to facilitate more meaningful research into teaching stress, there is the need for a manageable tool for the assessment of the main sources of stress experienced by teachers, especially in the Italian context where there is a paucity of validated instruments that specifically measure school-related factors (Guidetti, Converso, Viotti, 2014).
One of the most interesting tool in the assessment of the teachers' working quality life, based on the interactional/transactional perspective on stress proposed by Kyriacou and Sutcliffe (1978b), is the Teacher Stress Inventory developed by Boyle et al. (1995), a formerly validated scale either in Anglo-Saxon (Dunn-Wisner, 2004) and other cultural contexts (Hanif, Pervez, 2003; Boshoff, 2011; Kourmousi et al., 2015).

The authors of the original questionnaire specifically aimed at validating the dimensional structure of latent variables pertaining to teacher stress - previously identified by a series of factor analytic studies (e.g., Kyriacou, Sutcliff, 1978b; Payne, Fumham, 1987; Borg et al., 1991) - using different samples to undertake separate exploratory and confirmatory factor analysis, providing strong evidence as to the reliability of the dimensions contributing to teacher stress. Based on this, the Teacher Stress Inventory consisted of 20 items that after EFA analysis, resulted in 16 items (after a deletion of items with a double loading) grouped into a five-factor solution (χ^2=91.97; df=16; $p < .05$): Factor 1 - Workload (e.g. lesson preparation, responsibility for pupils and inadequate rest periods) accounted for 32% of the variance, Factor 2 - Professional Recognition (e.g., poor career structure, insufficient salary) accounted for 11.2% of the variance, Factor 3 - Student Misbehaviour (e.g., noisy and difficult pupils, lack of class discipline, problems in managing additional students) accounted for 7.7% of the variance, Factor 4 - Time/Resource Difficulties (e.g., inadequate equipment and facilities, large class size) accounted for 7.2% of the variance, Factor 5 - Poor Colleague Relations (e.g. attitudes of other teachers or pressure from educational authorities) accounted for 6.3% of the variance. Consequently, the factor structure was tested using Confirmatory Factor Analysis, providing evidence that the hypothesized model was stable (χ^2=171,14; df=70; AGFI = .91; RMR = .06). Finally, the relationship of the five "causal" factors with a single-item self-rating measure of teacher stress was examined, and, interestingly, revealed that both Workload and Student Misbehaviour were the only latent variables that emerged as significant predictors, explaining respectively 30% and 29% of the variance (Boyle et al., 1995).

Since these two dimensions revealed the main contribution in the onset of teachers' overall stress, Klassen and Chiu (2010) adapted this instrument (rescaling the items on a nine-point response scale) confirming a two-factor solution for these two sources of stress and their predictive power in the levels of job satisfaction and teacher self-efficacy

THE CURRENT STUDY

The present study represents a first contribution to the development of the Italian version of the Teacher Stress Inventory (TSI) in the version proposed by Klessen and Chiu (2010). Particularly, it aims at examining the psychometric proprieties of TSI in a sample of Italian teachers.

MATERIALS & METHODOS

Data collection:
Teachers from 18 public schools in a region of Northern Italy were involved during the academic year 2013/2014. Presentation of the project, sharing of content, objectives, and modalities of research implementation were first presented to school administrators, and consequently to all the participants involved in the project.

The self-reported questionnaire was administered anonymously to a total sample of 299 teachers, and its completion was the result of consent for the processing of the data, conducted in privacy and in accordance with current legislation. The questionnaire was filled out individually during working hours, in the presence of a researcher of the Department of Psychology who was available to the participants for clarification about the completion.

Participants:
269 teachers filled out the questionnaire correctly and therefore were considered for the current study. 169 (62.8%) were teachers of primary school, and 100 (37.2%) of secondary school.
91.2% were female and 8.8% were male. Participants were aged between 25 and 63 years (M= 45.22; sd=7.84). As educational level, 15.4% had a bachelor degree, 80.7% a master degree, and 3.9% a PhD or a specialist degree. Most of the subjects were married (71.3%), 65.9% have at least one child.

As concerns professional data, participants job tenure in the public school system ranged from 1 to 41 years (mean: 18.47; sd=9.54). The majority had a permanent contract (72.5%).

Instruments:
The data were obtained by means of a self-reported questionnaire including a socio-demographic section and the version of Teacher Stress Inventory (TSI) proposed by Klassen and Chiu (2010) back-translated into Italian. A single item aimed at capturing overall stress (Klassen and Chiu, 2010) and the Spanish Burnout Inventory (SBI, Figueiredo-Ferraz et al. 2013) were also included.
.
The Klassen's TSI version consists of 7 items grouped in 2 sub-dimensions: workload stress (4 items) and class stress (3 items). More specifically, Klassen and Chiu (2010) used six items from the Boyle et al. (1995) Teacher Stress Inventory, plus an additional item about class size (see in table , the item 3). All 7 items were back-translated (Brislin, 1970, 1976) and included in the present questionnaire. Also the following instructions were translated into Italian: *As a teacher, how great a source of stress are these factors to you*?, with responses ranging from 1 (*no stress*) to 9 (*extreme stress*).

Teacher stress was also measured by a single-item scale ("*I find teaching to be very stressful*", 1=completely disagree; 9=completely agree), following the approach used in recent studies of teacher stress (e.g., Chaplain, 2008; Klassen and Chiu, 2010).

Burnout syndrome was assessed by the Spanish Burnout Inventory. It consisted of 20 items distributed in four scales (five-point scale ranging from 0 "Never" to 4 "Every day"): Enthusiasm towards the job (5 items, e.g., *I see my job as a source of personal accomplishment,* α=.86), Psychological exhaustion (4 items, e.g., *I feel emotionally exhausted* α=.84), Indolence (6 items, e.g., *I don't like taking care of some students,* α=.64), and Guilt (5 items, e.g., *I regret some of my behaviors at work,* α=.77).

Data analysis.
Data analysis were performed using SPSS Statistical Package version 21 and included in five steps: a) item analysis (mean, standard deviation, skewness and kurtosis); b) assessment of score reliability of the TSI sub-scales (Cronbach's alpha and alpha if item is deleted); c) testing factorial validity of the TSI through Exploratory Factor Analysis (EFA; Method of Estimation: Maximum Likelihood; Rotation method: Oblimin); d) Pearson's correlations between TSI, the job stress single-item-scale and, SBI sub-scales in order to assess respectively convergent and predictive validity.

FINDINGS

Item analysis.
Descriptive statistics for the items are shown in Table 1. The highest mean values were reached by item 5 ("having noisy students", m=6.74), item 3 ("have large class size", m=6.69), and item 7 ("dealing with students' impolite behavior or rudeness" m=6.68).
For all items, the corrected item-total correlation achieved values equal or greater than r = .60. All values of skewness and kurtosis are comprised in the range –1.0 to +1.0, suggesting no violation of normal distribution.
Internal consistency.
The internal consistency of the sub-scales was satisfactory as the values of Cronbach's alpha reached respectively .82 for Workload stress subscale and .90 for Classroom stress (Table 1). In addition, all items seem to give a relevant contribution to the subscales where they belong, since in no case, if the items were deleted, the alpha increased or kept the same value.

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Table 1 – Descriptive Statistics of TSI Items.

Subscale Item	*M* (SD)	Corrected item-scale correlations	Skewness	Kurtosis	Alpha if item deleted
Workload stress (α=.82)					
1) Having too much work to do	5.65(2.26)	.75	-.38	-.78	.73
2) Having extra duties/responsibilities because of absent teachers	5.58(2.35)	.68	-.32	-.99	.76
3) Having large class size	6.69(2.25)	.57	-.86	-.26	.81
4) Being responsible for students' achievement	6.14(2.25)	.60	-.60	-.58	.80
Classroom stress (α=.90)					
5) Having noisy students	6.74(2.04)	.81	-.78	-.28	.85
6) Maintaining class discipline	5.83(2.24)	.80	-.42	-.85	.86
7) Dealing with students' impolite behavior or rudeness	6.68(2.29)	.80	-.84	-.36	.86

Exploratory Factor Analysis (EFA).

The Kaiser-Meyer-Olkin measure (KMO =.86) and Bartlett's test (χ^2=1279.33, df=21, p < .00) indicate that the factor model is appropriate.

In accordance with expectations, a bi-dimensional factor-structure was found underlying the 7 items. Overall, the amount of variance explained is 74.38%. Table 2 presents the items loadings on the two factors. The first factor explained 59.37% of variance. It consisted of three items of Classroom stress. All items positively loaded on the factor, with a saturation greater than .40 (the lowest value is on item 3 "maintaining discipline" with a value of .85). The second factor was Workload stress with 15.01% of variance explained. All loadings were greater than .40 and the lowest loading was reached by item 4 "Being responsible for students' achievement", with a value of .42.

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Table 2 – Factors, items loadings, variance explained of TSI

Item	Factors	
	Factor I	Factor II
7) Dealing with students' impolite behavior or rudeness	**.88**	-.03
5) Having noisy students	**.87**	.01
6) Maintaining class discipline	**.85**	.04
1) Too much work to do	-.05	**.91**
2) Extra duties/responsibilities because of absent teachers	-.06	**.81**
3) How great a source of stress is having a large class size	.27	**.51**
4) Being responsible for students' achievement	.29	**.42**
% of Variance	59.37%	15.01%

Note 1– Bold type indicate Value ≥ .40.

Correlations among subscales

The two subscales showed a high positive correlation (r=. 62) in the expected direction.

The correlations (Table 3) also suggest an adequate convergent validity with the measure of global stress and a good predictive validity on the burnout syndrome. All the correlations were significant. Workload stress showed the highest correlation with the measure of overall stress (r=. 52). Among the burnout dimensions, psychological exhaustion showed the strongest correlations with both the stress sources (r for workload equal to .54 and r for classroom .39), whereas guilt the weakest (both r were equal to .11).

Table 3 - Pearson's correlations among subscales

	1	2	3	4	5	6	7
1. Classroom Stress	1						
2. Workload Stress	.62**	1					
3 Overall Stress	.39**	.52**	1				
4. Enthusiasm towards the Job (burnout)	-.25**	-.19**	-.18**	1			
5. Psychological Exhaustion (burnout)	.39**	.54**	.45**	-.37**	1		
6. Indolence (burnout)	.24**	.14*	.16**	-.30**	.28**	1	
7. Guilt (burnout)	.11*	.11*	.06	.00	.35**	.38**	1

** p <.001; * p<.05

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CONCLUSIONS

The purpose of this study was to examine the psychometric properties of the Italian version of TSI proposed by Klassen and Chiu. The results obtained indicate that TSI is an adequate tool for assessing stress sources also in the Italian teaching context. In line with previous studies that underlie how the daily interaction with students and the management of academic demands are the main sources of stress (Otero-Lopez, 2008; 2010), this study shows similar patterns presenting significantly high correlations with levels of overall stress and emotional exhaustion.

This study has some limitations. The most important are that the data collection included only one Italian Northern Region, and that participants were selected in a non-random way. Future studies should select representative samples in order to provide stronger evidence for the adequacy of the psychometric proprieties of TSI in an Italian context implementing confirmatory factor analysis.

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Appendix-1 English and Italian version

	Original item	*Item translated into Italian*
	As a teacher, how great a source of stress are these factors to you?	Pensando al suo lavoro di insegnante, in quale misura i seguenti aspetti rappresentano per lei una fonte si stress?
	(Workload stress)	
1)	Having too much work to do	Avere troppo lavoro da portare a termine
2)	Having extra duties/responsibilities because of absent teachers	Avere responsabilità e compiti extra quando altri insegnanti sono assenti
3)	Having a large class size	Avere classi numerose
4)	Being responsible for students' achievement	Essere responsabili dei risultati conseguiti dagli studenti
	(Classroom stress)	
5)	Having noisy students	Avere studenti in classe che disturbano, fanno baccano
6)	Maintaining class discipline	Mantenere la disciplina in classe
7)	Dealing with students' impolite behavior or rudeness	Rapportarsi con studenti maleducati, insolenti

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Mechanisms Of Pupil´S Self-Assessment Processes At Primary School In The Context Of A Polytechnical Education

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ABSTRACT
The paper is concerned with the issue of pupil´s assessment at primary school in the context of a polytechnical education in accordance with the current trends of the education policy in the Czech Republic (the processes of assessment are the subject of criticism of the imperfection of the Czech education according to OECD). These processes are perceived as significant for the socialization of a child, which is declared by valid and obligatory legislative documents. With respect to strengthening efforts in society to revive the technical fields it is the main intention of the project to reflect the present-day condition of instruction of the polytechnically oriented subjects through a teaching process analysis. A resource for fulfilling the output of the project is making of a research, whose results would make possible to identify the key problematic elements in the instruction with respect to the development and support of the self-reflective activities of a pupil, and to suggest measures that could lead to improvement of a technical education at primary school and to develop the process of socialization. The main intention of the paper is to present a project which try to reflect the extent of space for self-assessment by a pupil, which is offered by a teacher during the realization of a technical education.

Keywords: polytechnical education, primary school

INTRODUCTION

For approximately 20 years we have been trying to implement the principles of a curricular reform to our school´s practice. If we think about it a bit, we realize that this time period represents one whole generation. During this time period we could observe a high publishing activity of the experts about the various approaches to the education innovations. However, in the present day in accordance to the fact that the Framework Educational Programme for Basic Education (FEP BE) which is applied in all schools in the form of school educational programme, we find ourselves in the times when we should begin with a targeted, intentional and precisely criterion adjusted evaluation of the effectiveness of the school reform´s philosophy (while we want to focus on the changing of the teaching process, patters and the evaluation of its effectiveness). It is not just the opinion of this proposal´s authors, but we mainly depend on the criticism of the international organization OECD from 2012. The biggest criticism fell on the insufficient setting of criteria for the assessment on all levels – evaluation of FEP´s functionality, quality of School Education Programme, work of the headmasters and teachers and the evaluation of the pupil´s activity with a focus on the self-assessment processes.

The published outputs of the *Česko mluví o vzdělání* campaign (the Czech Republic talks about the education) are another impulse. We can consider its topic number 2 about how to increase the interest of the children and pupils to learn new things as a very interesting influence on creating of an objective for our scientific intention. In the discussion there were inspiring polemical opinions, for example that the meaningfulness of education should be guaranteed, but the practical usability of the knowledge to suppress the academically conceived education should not prevail. If we focus on the context of this discussion impulse it seems to be indispensable, if we think about the transformation of the school´s inner system.

However, the most important thing to define our scientific intention was that all above stated impulses are connected by one important element and that is that there is no exact line of the education content, but only a thought which way should we head regarding the approach to education – thus a pupil should understand more rather than just know. To respect this approach we have an opportunity to track the traces in curricular documents, which are only fragments of specific approaches with predicted outputs and also only a small number of researches is concerned with the evaluation of the school reality.

One of the topics, which appears in the context of the criticism of the Czech education system, is also a polytechnical education. The Czech companies are battling with the lack of quality graduates from the technical fields in the recent years and because of that the attention of the society focuses on support and improvement of the polytechnical education. The support of the polytechnical branch of education was already discussed during

the previous years and at the present day there is an effort to increase the share of the polytechnical education on its top. The year 2015 was labelled as "the year of the polytechnical education" (Šrámek, 2014) and the support of concepts, mainly from the field of polytechnical education at nursery and primary schools, was determined, on the basis of cooperation with the Ministry of Education, Youth and Sports and the Confederation of Industry of the Czech Republic.

The authors of the pedagogical dictionary define the polytechnical education as "an education offering the knowledge about the scientific principles and manufacturing sector, knowledge from the technical fields and general technical skills." (Průcha, Walterová, Mareš, 2009, p. 207) This term was earlier used also as a name for tertiary level of schools, today is the term used in the connection with the technical and natural sciences education, including the environmental education, education of the public and the support of the education in the natural environment on all education levels. The polytechnical oriented subjects occur on a primary school for example within the frame of education field *A Man and the World of Work* (see below), on which we plan to focus the most in our project.

TECHNICAL EDUCATION AS ONE OF THE AREAS OF HUMAN´S KNOWLEDGE DEVELOPMENT

The creative abilities of a man are now becoming one of the decisive factors influencing the economic and social development of countries. The present day era is then characterised mainly by an increased effort to improve the instruction and education of the younger generation. The role and function of the pedagogues is transformed from passing the information to forming the personality and the social relations, from reproductive activity to productive creativity, from passivity to activity, initiative and creativity, from quantity to quality of the knowledge and skills. People are looking for the new basic curriculum, they are modifying the instruction methods, they are developing and using new teaching aids and the thinking of the teachers is changing. The objective is mainly the support of the development of the abilities, thinking, character, value systems and creativity of a person. (Šubert, 2010)

The educational area *Člověk a svět práce* (A Man and the World of Work) is in the FEP BE dedicated to the area of the technical education and preparation for the working life. It is conceptually focused on the practical working skills and habits, which form the necessary part of the basic education. This educational area (along with some others) is the counterweight to the theoretically focused educational areas, because it is based on the practical active involvement of the pupils. The gained knowledge, skills and working abilities create the basic part which a person needs to succeed in life and in society.

The educational area *Člověk a svět práce* (A Man and the World of Work) is compulsory on a primary school on both education levels (ISCED level 1, ISCED level 2). The educational area on ISCED level 1 is divided into four thematic fields, which are Work with small materials, Constructive activities, Growing practices and Preparation of a dish. On ISCED level 2 it is divided into eight thematic fields, which are Work with technical materials, Design and constructing, Growing practices and livestock farming, Running and maintenance of a household, Preparation of a dish, Work with laboratory technology, Using the digital technologies and World of work. The concrete names of the disciplines can vary depending on the *School Education Programme*.

The focus within the realization of the technical education narrows to the thematic fields *Work with small materials and Constructive activities* on ISCED level 1 and on Work with technical materials and Design and constructing on ISCED level 2. Within the stated thematic fields we are trying to build a system of knowing the working abilities and habits, which will allow in the future to plan, organise, realise and evaluate the working activity (of one own and of others).

The technical education in the requirements at primary school leads to a general development and adoption of the key competence of the pupils when they are getting to know the surrounding world, adoption of the basic working abilities and habits, persistent and systematic fulfilling of the basic tasks and mainly employing the creativity during one´s own working activities. The task of the technical education teacher is to create in a pupil a positive relation and responsibility to work, lead a pupil to respect and protect the environment, to develop the positive character traits such as resolution, persistence and creativity. And mainly to perceive that the physical and mental work are part of the human culture and an opportunity to self-realization and self-development. (FEP EE, 2007)

These objectives are on primary schools fulfilled with practically oriented subjects of various names and characters (according to the School Education Programme). The technical and creative thinking of the pupils is a significant topic of the technically oriented disciplines and today often discussed issue. The present day is characteristic with its fast advancement of knowledge, mainly in the field of technology. National Programme for the Development of Education (Národní program rozvoje vzdělávaní) declares as one of the objectives to increase the quality of education through an inner change of a school. A part of this change is the transformation of the role of a teacher and a pupil which should be reflected mainly in the objectives and contents of the education, style of teacher´s instruction and in the mutual relationship between a teacher and a pupil.

The objective of the primary education should be a universal cultivation of pupil´s personality (attitudes, values orientation and interests), creating of motivation for learning, development of thinking, creativity and adopting of the basic literacy in different fields as a tool for successful future education. (National Programme for the Development of Education, 2001)

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PUPIL´S PURPOSEFUL INDIVIDUAL AND ALSO COOPERATIVE ACTIVITY, EXPERIENCES, PRACTICES

An active work of pupils is the general trait of the technical subjects, whose primary objective is to supply the pupils with the competence for "life with technology". This active work is strongly focused on creating of the relationships and attitudes mainly towards the technology and because of that it should bring positive impulses, experiences (from a successful solution, product, from fulfilling a useful task etc.) to a pupil. We comprehend an experience as a mental phenomenon, which "an individual experiences (perception, thinking, imagination), always inner, subjective, emotionally linked; a source of a personal experience..." (Hartl, Hartlová, 2004, p. 701). An experience thus arises on the basis of the involved living through a situation, here a situation connected with the technology. When applying the research oriented approach in technical education, it is not merely about the activities of a pupil, focused on observing and experimenting during the practical activities, but mainly about applying the creativity, critical thinking and other thinking processes.

The contemporary theory of cooperative instruction is based i.a. on the theory of group teaching, which is also applied to the instruction´s practice, for more details see Kasíková (2001). The conditions for cooperation are made by dividing the pupils into groups. The cooperative instruction lies in the cooperation in a group, in the social interaction, whose significant tool is a dialogue (Kolář, Šikulová, 2007). The success of an individual, fulfilling of the given objective of instruction, during the cooperation within the realization of the research oriented instruction, is bound to the success of a group, cooperating members of the group. A pupil adopts the curriculum about technology in a group interaction, in the relations to others and in own work "for a group". A part of the learning is then also the forming of social skills for the team work, a contribution to personally social and intellectual development of a pupil (Kasíková, 2001, p. 62).

Creation of experiences from an environment that is similar to reality is one of the contributions of a pupil within the research oriented instruction of technical subjects. The authors of the pedagogical vocabulary (Průcha, Walterová, Mareš, 2009) consider the term practice as ambiguous. It can mean knowing the world based on senses, experiences, social contacts and practical activity or a summary of one´s individual knowledge and skills, habits, interests, experiences, social relationships. It can be related to an individual but then it is passed to the others with difficulties (there is also a collective practice). The practice, thus earlier known and experienced has a considerable significance when knowing (environment or oneself). It applies to school as anywhere else. The known is interpreted on the basis of the manner of comprehending the earlier perceived facts; this thesis is one of the basic ones for the constructivist conception of instruction. "That, what a subject has in mind, offers him a complex scheme, a framework of knowledge which is used for the new knowledge, which will only be built" (Grecmanová, Urbanovská, Novotný, 2000, p. 20). Another idea of constructivism is that a pupil learns what he is interested in, what he considers to be useful and what "is working for him" (viability), functionality of the knowledge is then a specific scale for the correctness of knowledge (Riedl, 2003, p. 30-31). A possibility to verify the known and also what one found about oneself during the activities of adequate process of instruction of technical subjects on primary school can then be a significant factor of developing the self-concept.

An individual activity is significant for creating the pupil´s self-concept. An activity during which a pupil directly experiences his own achievements or failures, and also a cooperative activity which allows to take place among the cooperating ones, evaluate own performance, reflection of opinions of others about oneself.

THE RESEARCH ORIENTED INSTRUCTION AS ONE OF THE ACTIVATING METHODS OF THE POLYTECHNICAL EDUCATION

In accordance with the current education trends, a constructivist axis of instruction is being promoted in the modern education, mainly represented by activities oriented on the development of the key competence of a pupil. An emphasis is put on the participation of a pupil in the instruction and the development of one´s personal qualities. A basis of the educational process is constructing of the knowledge by a pupil himself, and a teacher, as a guarantee of the method, ensures that every pupil can reach the highest possible level of development. The pupil´s knowledge is gradually created as a subjective cognitive structure, which is being changed and enriched in the process. Research oriented instruction, same as most of the constructivist didactics, is based on pre-concepts of a pupil as the tools for knowing. They should be repeatedly reconstructed in the instruction in the manner, that the knowledge would be integrated into actual schemes. A pupil is then in an educational process put into the role of explorer representing own knowledge based on own activity. (Pecina, Zormanová, 2009)

For example Dostál (2013) draws attention to more intensive implementing of research oriented instruction in the Czech Republic and abroad, in relation with the effort to popularise the technical and natural sciences subjects. The research oriented instruction as one of the activation methods of problem learning originates from the principal of constructivism and it is based on independent controlled cognition through own activity of an individual, which develops the critical (then also research) thinking. Such a conception of instruction can be realized through various educational strategies, with the use of vast range of teaching methods. The research oriented instruction can be then perceived as a field involving more activation methods (e.g. method of solving problems, heuristic or project instruction). (Stephenson, 2013)

The role of a teacher changes in comparison with the other traditional approaches from a transmitter of ready-made knowledge to a facilitator and coordinator of the pupil´s process of knowing (Bertrand, 1998). A teacher sets the conditions, helps, advises and motivates to the exploring itself. A pupil is in the technical education placed in front of the theoretical or practical problems, which he must solve on the basis of own existing knowledge, skills but also attitudes and opinions about oneself and the surrounding world. A pupil is forced to compare these opinions with the pedagogical reality and the results of own learning activity.
It is possible to adjust the research oriented instruction to age and level of knowledge of the pupils, so that it corresponds with the specific specialities of each age period. With the younger pupils it is more suitable to submit already made process of solving, through sub-steps, whereas with the older pupils we can just submit a formulation of a research task. (Papáček, 2010) It is possible to realize the process of pupil´s research in several ways. These are:

- confirmatory research, when the pupils know the procedure, questions and results which they verify with their own experiments,
- directed research, when a teacher asks a question, to which the pupils are searching for an answer,
- structured research, when the pupils are given the research question and a procedure of the activity. The pupils then formulate their conclusions according to these information.
- open research, when the pupils ask the questions, they also choose their methods and they do the research. (Eastwell, 2009)

The active and conscious approach of a pupil, his ability to learn, to cooperate, his self-reflection and self-assessment is needed for all these activities.

ASSESSMENT IN TECHNICAL EDUCATION AS MEANS TO LEARNING AND UNDERSTANDING

In the effort to diagnose a pupil´s performance and result when realizing the technical education, a teacher is forced to answer the following question: What specifically should they control and evaluate and what approach should they choose in order to ensure that the assessment of pupils is fair, reliable and effective? (Bajtoš, Pavelka, 1999) The answers to these questions are characterised by the used instruction strategies of a teacher, among others also the interaction between teacher and pupils. Assessment has a specific role in the teaching process, because without the evaluating processes it is not possible to further develop oneself. Assessment itself has various forms and from that derived functions.
A teacher´s assessment is influenced by many factors, which are part of the mutual relationship between teacher and pupil. Among the most important determinants is that a pupil is understood by a teacher and from that derived conception of instruction (instruction strategy). If a teacher is the only evaluator, the process of learning is being looked at by only one (although expert) point of view. In the case, that in the spirit of the modern pedagogics we perceive a pupil as a co-creator of the educational process, the pupil´s participation is then necessary also for the results evaluation of the learning activities.
Evaluating of pupil´s own work can allow a pupil to regulate own activity, by which he influences own learning, and he learns to accept the responsibility for his results. We can then perceive the self-reflection as a process of reversed control, which then leads to connecting the existing knowledge with the current knowledge by using the actions and facts and their critical judging. (Kolář, Šikulová, 2009)

Self-reflection as a part of pupil´s self-assessment

Self-assessment in the context of primary school is one of the didactics methods, during which a pupil confronts his own opinions on himself with the opinions of a teacher or other pupils. From psychological point of view we are dealing with the emotional representation of perception of own value and competence (Blatný, 2010). The self-reflection can be then determined as generally conscious self-knowing in the means of introspection, on which base a relationship to oneself is created. A path to self-reflection of a pupil leads through the evaluation by a teacher, who is one of the main factors influencing the self-assessment activity of a pupil.
The evaluating skills need to be systematically developed for example by guiding reflective questions. These questions are for example: What new have I discovered? What have I learned? What have I achieved? In what situation do I feel insecure? How do I react when I don´t know something? On what should I focus more? Why have I got better/worse? (adjusted according to Kolář, Šikulová, 2009)
The questions formulated in this manner can have regulative, motivational and cognitive function during the progress of learning process and also in its end. Even though the self-assessment of a pupil cannot completely replace the assessment of a teacher, it has its justification in the educational process. The activities evaluated by a teacher and the self-assessment by a pupil should be in a mutual balance and they should intersect, because the effort of every teacher should be guiding a pupil to independence and responsibility for one´s own actions.

Strategies of the pupil´s self-reflection regulated by a teacher

Although a School Educational Programme of every school declares the basic characteristics of evaluation, which are chosen by every school and a teacher should fully respect them; there is still a certain degree of the teacher´s

personal conception used in the educational process. Thinking through the most suitable way of "becoming independent" of a student from a controlled self-reflection to uncontrolled process can thus vary according to every teacher and every class. It is possible to observe the strategy of expanding in the means of deepening, guiding questions (or items) from several general ones to specific ones or vice versa.
A proposal of items specific for the instruction of technical education, which can help a pupil to get an insight about the quality of his work in the field of knowledge, skills and emotional influence of the realized activity was presented in the contribution of the main coordinator on the Trends in Education 2014 conference (Částková, Stolinská, 2014). Following the theoretical base we made a research, in which we focused on evaluating the interaction between a teacher and a pupil in the context of self-reflection, where we evaluated the strategies of evaluation of pupils by a teacher. (Stolinská, Částkova, 2014) We plan to develop this concept, when solving the project by verifying its effectiveness.

Objectives of the project:
The main objective of the project is to analyse the present-day level of realization of processes of technical education in the real environment of primary school´s practice with an intention to identify the extent of space for self-assessment by a pupil, which is offered by a teacher.
The fulfilling of the main objective is conditioned by completing the partial objectives, which were determined on both theoretical and empirical level.
Partial objectives:
Theoretical:

- to theoretically analyse the approaches and educational strategies used in the instruction of polytechnically oriented subjects at primary school with an emphasis on the specifics of primary school,
- to theoretically analyse the approaches to a child´s socialization with the support of evaluating strategies applied during the realization of polytechnically oriented subjects at primary school,
- to create scientific publication which is solving the issue of the processes of pupil´s self-assessment in the polytechnically oriented subjects.

Empirical:

- to identify the formal form of polytechnically oriented subjects on a primary school,
- to analyse the teaching process of polytechnically oriented subjects on a primary school from the point of view of the teacher´s approach and application of the teaching strategies,
- to identify the individual approaches of the teachers to the assessment of polytechnically oriented subjects,
- to create a typology of teachers according to the identified conceptions

CONCLUSIONS

The works on the project in connection with the profiling of the project proposer will start by a study of home and foreign literature, which is related to the issue of assessment of the pupil at primary school. A theoretical analysis of the evaluating strategies of the teachers and pupils will take place on the basis of literature study. A selection of research sample, which should consist of primary schools, will take place simultaneously. The research survey will have a mixed design, where the quantitative and qualitative approaches will be combined. The main objective of the research survey will be to analyse the teaching process in the polytechnically oriented subjects at primary school in terms of teachers´ approaches and the applied educational strategies.
The research will map the processes of evaluating of a pupil by a teacher and the pupil´s self-reflective activity, as it happens in the reality of a primary school. It is possible to perceive the research survey on two levels, where the first level is represented by a teacher as a manager of instruction and evaluation. The second level is represented by a pupil as a co-participant of the realization of the educational process. We suppose, that from the research will result the information about the acting and behaving of teachers and pupils directly in the educative reality - instruction of polytechnically oriented subjects. The records from the observation will be written into the observation sheets in the form of terrain records and then evaluated by a paired samples t-test.
The research will focus on the key factor of a teacher and his strategies of evaluating of the polytechnically oriented subjects and the experience with the self-assessment of a pupil in the instruction. It will be a field of research with the use of technology of participated observation of the educational reality. The second phase will follow after the following analysis of the acquired data - a guided half-structured interview with a teacher (as a part of the Characteristics of the masterful teacher´s work), through which we will add the analysed data. By that we will support the level of objectivity of the acquired data. Through one of the project´s outputs we plan to create a typology of teacher according to the identified evaluating strategies. We see the contribution of the project to the pedagogical theory mainly in the reflection of the currently used mechanisms in the environment at primary school in the polytechnically oriented subjects.

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Metacognitive Learning And Students' Self-Improvement In Higher Education

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ABSTRACT
Researchers in the field of educational psychology have long promoted the importance of metacognition for regulating and supporting student learning. This paper is a report on the findings of a study concerned with assessing students' metacognition in the learning process. The study attempted to clarify the relationship between metacognitive learning and students' motivation for self-improvement. The participants were 331 undergraduate students in helping professions (health and social care and educational services) of Tomas Bata University in Zlín. The results showed that metacognitive learning does not depend on the branch of study or study year and remains consistent during the course of study, i.e. in bachelor's and master's degree studies. The largest deficit was recorded in the rate of adaptation to specific teaching situations. In addition, we found that motivation for self-improvement is a strong predictor of metacognitive learning. The findings from this research may support training programs instructing students on how to adopt effective metacognitive skills and strategies and learn how to perform well if they have better control of their learning.

INTRODUCTION
The new millennium was ushered in by a dramatic technological revolution. We now live in an increasingly diverse, globalized and complex media saturated society. If we strive to prepare students for the future, we have to embrace a new culture of learning where individuals are expected not only to be adaptive, but also innovative, creative, self-directed and self-motivated (Maňák, 2005). Education must be open and "unfinished", providing students with necessary competencies for further study (learning to learn), motivation for further education and understanding the importance of further learning for one's own existence (Greger & Černý, 2007). This shift means that the acquisition of thinking skills has become a major education objective in recent years. New strategic documents dealing with the new educational aims (National Research Council, 2011; Binkley 2010) define the skills of the 21st century. These skills consist of cognitive skills as well as interpersonal and intrapersonal skills. Students need to adopt new ways of thinking and working and have tools for working and living in the changing world which means a person needs to acquire a number of competencies e.g. how to develop and improve oneself to think about one's thoughts and learning (metacognition) and to be able to control this process (self-regulated learning). Metacognition is becoming more and more important.
The „Thinking about thinking" theory was first described by Flavell in 1970's as metacognition. Metacognition is essential in the self-regulated learning of students and is defined as knowledge of one's own cognitive processes (knowledge of how I learn or act) and as the regulation of those processes by a subject who learns and acts in various situations. Metacognition is understood as students´ set of skills and competencies to be aware of one's own cognitive (learning) activities, to plan, monitor and assess methods they use when learning (Švec & Hrbáčková, 2010). Cognitive psychologists at the end of the 20th century emphasized the importance of metacognition as a crucial part of an intelligent person's behaviour and thus expanded the definition of intelligence with a phenomenon our academics were only slightly familiar with. However, this term was used as early as the 1970s (Flavell, 1979) and described the way to understand one's own thinking processes and human skills to control them.
Fisher (1997) links metacognition with the intrapersonal type of intelligence. According to him, intrapersonal intelligence is probably the most important aspect of human intelligence as it is related to the application of all other types of intelligence. It may be defined as a person's capacity of self-reflection, awareness of one's strengths and weaknesses, emotions and thinking processes, which all together form knowledge of the self (Shepard, Fasko, & Osborne, 1999). According to Flavell (Dawson, 2008) the knowledge of one's own cognition and learning relates to knowledge of the self (person variable), knowledge of the nature of a task (task variable) and knowledge of strategies (strategy variable). Later, the above mentioned terms were linked to declarative, procedural and contextual knowledge, which may all be labelled as metacognitive knowledge.
Metacognition does not only include knowledge of human cognitive processes (metacognitive knowledge) but also monitoring, controlling and regulating processes of one's own cognitive processes which are linked to metacognitive skills (Brown, In Desoete, Royers, & Buysse, 2001) and metacognitive strategies. Metacognitive strategies (Susimetsä,

2006) are methods used by a learner to regulate and reflect on cognitive processes. They include the skills of a subject to analyse his/her own equipment (pre-conditions) for successful learning and skills and competencies to alter learning methods and to adopt new effective learning techniques corresponding with learning situations and one's own learning style (Švec, 2005). Desoete (2001) defines metacognitive skills as a set of skills to predict (orientation), plan, monitor and assess one's own cognitive process. The skill of prediction includes an analysis of successful learning requirements. Planning includes well-thought-out action - thinking about how, when and why to carry out the task and monitoring can be regarded as one's own checking („on-line") of the effectivity of cognitive strategies use. Assessment is defined as retrospective („off-line") judgement about one's results and learning progress. According to Nelson and Narens (1994), self-monitoring and self-regulation correspond to two different levels of metacognitive processing that interact very closely. Self-monitoring refers to keeping track of where the pupil is with his/her goal of understanding and remembering (a bottom-up process). In comparison, self-regulation or control refers to central executive activities and includes planning, monitoring, and evaluating his/her behaviour (a top-down process). The substance of metacognitive processing is reflection (awareness of these methods, assessment of their importance and meaning, possibly of the advantages in the process of further learning). „Reflectiveness implies the use of metacognitive skills (thinking about thinking), creative abilities and taking a critical stance. It is not just about how individuals think, but also about how they construct experience more generally, including their thoughts, feelings and social relations" (OECD, 2005).

The development of metacognition is a highly individual process and it may develop in a different way but it is obvious that it is socially mediated (Larkin, 2010). Metacognitive structures take a long time to shape and in their final stage, they are general and formal. A psychological idea is that reflections of various stimuli are collected in an internally represented form and they build a hierarchy of principles applied even to situations which were not included in the original learning process. It is not clear whether metacognition is general by nature or rather task and domain specific. Research by Schraw et al. (1995) revealed that monitoring skills are general by nature, whereas Kelemen, Frost, & Weaver (2000) provided evidence against such a general skill. Also Veenman et al. (2004) obtained strong support for the generality of metacognitive skills. It seems that metacognition initially develops in separate domains, and later on it becomes generalized across domains (Veenman & Spaans, 2005).

Part of professional training focused on working with people (and care for them) is not just cognitive development, but also non-cognitive. For professionals working in the helping professions, it is very important to work on themselves, to improve, assess their strengths and weaknesses, learn and think about their own development. These skills, although partly implicit (tacit), are necessary to develop and cultivate. The development of metacognition is not usually included in the higher education of students. It is expected that students will master these skills automatically.

We believe that the development of metacognitive thinking (learning) should be an integral part of the preparation for a profession. Metacognitive intervention should be specific (with respect to the individual development of students) and should be based on a detailed analysis of the level of these skills and knowledge, to what extent students use metacognitive skills in the learning process. In our research, we did not focus primarily on finding the level of meta-cognitive knowledge, but metacognitive skills, because we assumed that this knowledge is reflected in metacognitive skills (manifestations of metacognitive skills presuppose that the student has some metacognitive knowledge). The findings from this research may support training programs instructing students on how to adopt effective metacognitive skills and strategies and learn how to perform well if they have better control of their learning.

THE STUDY

In our research we focused on finding what the level of metacognitive skills is (direction, self-reflection and adaptation) for students in the helping professions (health and social care and educational services). We investigated the relationship between metacognitive learning and students' motivation for self-improvement and what the differences in the levels of metacognitive skills are according to the degree of self-improvement. At the same time, we also examined to what extent motivation for self-improvement predicts metacognitive learning. We were also interested in whether metacognitive learning varies depending on the stage or year of study and the studied subjects.

The research sample consisted of 331 student teachers (n = 181) and non-medical health care fields students (n = 150) in full-time studies at Tomas Bata University in Zlín. These fields were Social Education, Adult Education, General Nursing, Midwifery and Health and Social Worker. The fields studied were largely represented by women (n = 309) compared to men (n = 22), which corresponds to the real representation of men in the helping professions.

To collect data, we used a 15-item-self-evaluation questionnaire *The Metacognitive Learning Scale* (MLS) focused on metacognitive learning, i.e. the level of metacognitive skills, which was supplemented with questions aimed at ascertaining the motivation of students for self-improvement (3 items) . The MLS questionnaire was divided into three areas: *Direction* (6 items), *Self-reflection* (5 items) and *Adaptation* (4 items). Two tools used in earlier studies to measure metacognitive skills served for the construction of each item, i.e. the *Motivated Strategies for Learning Questionnaire* (Pintrich et al., 1991) and the *Metacognitive Process Questionnaire* (Hrbackova & Hladik, 2011). Responses were recorded on a 5-point Likert-type scale (1 = minimum agreement; 5 = maximum agreement). Higher values indicate a higher level of metacognitive skills. The questionnaire included 2 reverse items that were recoded in evaluating the results.

To determine the construct validity of *The Metacognitive Learning Scale*, exploratory factor analysis was used. Based

on the scree test analysis, a 3-factor structure was chosen. An analysis of the principal components, i.e. orthogonal factor rotation was done, using the Varimax norm. method. We concentrated on items with a factor loading greater than or equal to .50. We have generated three factors with a total common variance = 39.91 % and with a Cronbach coefficient of α = .75. 1. The *Direction* factor (n = 6 items). Factor loadings vary in the range from .52 to .67. The factor explains 17.67 % (eigenvalue = 4.52) of the total common variance. 2. The *Self-reflection* factor (n = 5 items). Factor loadings range from .52 to .73. The factor explains 12.81 % of the total common variance (eigenvalue = 1.76). 3. The *Adaptation* factor (n = 4 items). Factor loadings were observed in the range from .51 to .63. The value of variance is 9.43 % (eigenvalue = 1.31). By removing items with factor loading below .50, the 22-item vision was reduced to a 15-item 3-factor version of *The Metacognitive Learning Scale*.

The created factors are indicators of metacognitive learning in which students regulate their own learning process. The first factor *Direction* expresses a certain direction and focus for their own learning, it includes knowledge (knowing), what should be done and how it should be done. It expresses one's own control over learning. The second factor *Self-reflection* represents the real assessment of one's own abilities, it involves a certain oversight over oneself (with a healthy self-criticism). The third factor *Adaptation* refers to the ability to adapt their learning to the particular conditions (teaching situation), i.e. if necessary, to change their practices and make the most of the analyzed situations.

The measured factors concur with the theory of intelligent thinking, described by Binet & Simon (1916). According to this theory, intelligent thought comprises three distinct elements: adaptation, criticism, and direction. The factor *Adaptation* is considered an important part of intelligence, and played a significant role in later definitions and theories of intelligence. The factor *Criticism*, or the ability to monitor and critique one's own thinking and problem solving is an important part of the definition of metacognition. The factor *Direction* is an important part of the concept of *Personal navigation* (Sternberg & Spear-Swerling, 1998). Broadly speaking, personal navigation (PN) refers to a person's control of his or her voyage through life. PN involves finding a direction in life, maintaining this direction when appropriate and changing it when appropriate, moving in the direction at a velocity that is appropriate for the circumstances, using navigational aids in order to maintain the desired direction and overcoming the obstacles that inevitably present themselves in any voyage. Personal navigation is more about using one's intelligence effectively than it is about intelligence itself.

When analyzing the dependence of metacognitive learning on students' motivation for self-improvement, we worked with the categories of motivation (low, medium and high degree of motivation). The degree of motivation, which corresponded to a value lower than 2, we identified as a low level of motivation for self-improvement. The degree of motivation, which corresponded to a value higher than 4, we identified as a high level of motivation for self-improvement. Other values (higher than 2 and lower than 4) we identified as the average level of motivation.

To analyze the data we used a t-test, a Person's correlation coefficient, a one-way between groups multivariate analysis of variance (MANOVA) and linear regression. We also tested the preconditions for the use of tests at the same time. This means that we tested the normality and homoscedasticity (Levene's test). The data was processed through the SPSS program, ver. 21.

FINDINGS

The metacognitive learning of students in the helping professions reaches the highest level (Table 1) in the area of self-reflection (M = 3.63, SD = .58). 50% of students have a level of self-reflection in the interval 3.2 - 4 (on a scale of 1-5).

Tab. 1: The level of metacognitive skills and motivation for self-improvement

	Minimum	**Maximum**	**Mean**	**SD**
Direction	1.50	5.00	3.40	.69
Self-reflection	1.80	5.00	3.63	.58
Adaptation	1.00	4.75	2.39	.65
Metacognitive skills	1.84	4.53	3.25	.46
Self-improvement	1.33	5.00	3.50	.70

The results show that the extent of direction reaches a higher level (M = 3.40, SD = .69), unlike adaptation, where we see a relatively low value (M = 2.39, SD = .65). 50% of students exhibit a rate of adaptation in the interval of 2 - 2.75 (Figure 1). The results suggest that students benefit from more consistent learning procedures that do not change much. This may be due to the fact that they do not need to change their practices and adapt them to specific learning situations or utilize learned procedures and they do not know other strategies that would be more effective in the specific learning situation.

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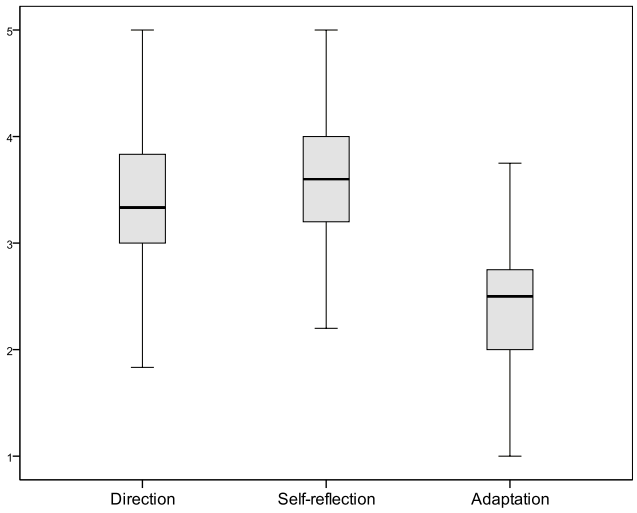

Fig. 1: Rate of direction, self-reflection and adaptation

The motivation of students for self-improvement reaches an average value of M = 3.5 (SD = .70). When we analyzed whether this motivation varies depending on the level of study, branch of study or year of study, we found that these incentives did not differ significantly between bachelor's and master's degree students ($p = .29$), in each year of study ($p = .79$), or depending on the studied field ($p = .08$). We found that this also applies in the case of metacognitive learning that develops independently of the level of study ($p = .78$), and also does not change during the course of study (depending on the year of study, $p = .93$) and remains comparable with student teachers and health profession students ($p = .11$).

Tab. 2: The relationship of metacognitive skills with the motivation for self-improvement

	Direction	**Self-reflection**	**Adaptation**
Self-improvement	.524*	.352*	.343*

*the correlation is significant at the .001 level of significance

We found that metacognitive learning (partial metacognitive skills) significantly correlates with students' motivation for self-improvement. The more the students are motivated to improve and work on themselves, the more they use metacognitive learning (and vice versa). Motivation for self-improvement is most associated with the focus ($p < .001$) on learning (Table 2). Likewise it is also true that the more the students need to improve, the more they reflect on their own learning process ($p < .001$) and adapt their learning methods to the specific teaching situation ($p < .001$).

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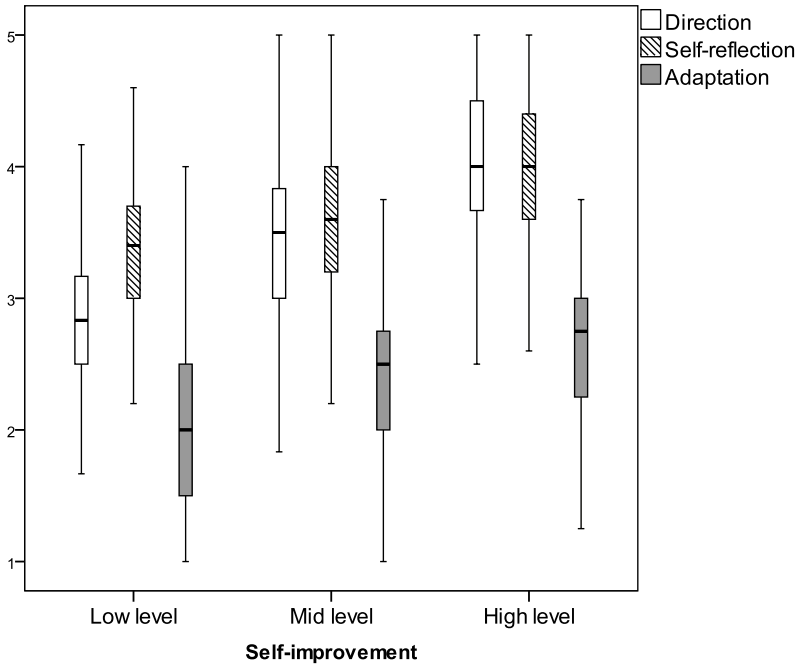

Fig. 2: The level of metacognitive skills by level of self-improvement

When comparing the metacognitive learning of students with low, medium and high levels of motivation for self-improvement (Figure 2), we can say that the level of metacognitive skills differs significantly in the combined dependent variables ($F = 19.98$, $p < .001$). The lowest levels of metacognitive skills are achieved by students with the lowest motivation for self-improvement (Table 3), these differences are significant for all metacognitive skills ($p < .001$). Students with a low motivation for self-improvement achieve lower levels of direction ($M = 2.82$, $SD = .60$), lower rates of self-reflection ($M = 3.31$, $SD = .58$) and a lower rate of adaptation ($M = 2.11$, $SD = .74$). Conversely, students with a high rate of motivation for self-improvement achieve significantly higher levels of metacognitive skills than students with medium and low levels of motivation for self-improvement ($p < .001$). Students who have high motivation to improve themselves, are significantly more focused on their learning ($M = 3.97$, $SD = .59$), are capable of a higher degree of self-reflection ($M = 3.99$, $SD = .58$) and are also able to adapt their learning to the specific teaching situation higher rate ($M = 2.77$, $SD = .73$).

Tab. 3: The differences in the level of metacognitive skills according to the level of self-improvement

	Self-improvement	**Mean**	**SD**
Direction	*Low level*	2.82∗	.60
	Mid level	3.41∗	.61
	High level	3.97∗	.59
Self-reflection	*Low level*	3.31∗	.58
	Mid level	3.63∗	.53
	High level	3.99∗	.58
Adaptation	*Low level*	2.11∗	.74
	Mid level	2.38∗	.55
	High level	2.77∗	.73

∗$p < .001$, the stated differences are significant among all groups

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It can be seen from the analysis (Table 4) that the motivation for self-improvement is a significant predictor of the metacognitive learning of students in the helping professions ($p < .001$). The model explains 34% of the variability of the dependent variable, i.e. metacognitive skills ($R^2 = .336$, $\beta = .58$). It is evident that the need for students to improve themselves in the learning process plays an important role in the use of metacognitive skills while learning.

Tab. 4: Predictor of partial metacognitive skills

Predictor	Metacognitive skills	B	SE_B	β	R^2
Self-improvement	*Direction*	.512	.046	.524∗	.274
	Self-reflection	.291	.043	.352∗	.124
	Adaptation	.315	.048	.343∗	.117
	Metacognitive learning	.386	.030	.580∗	.336

∗$p < .001$

Motivation for self-improvement is to the greatest extent determined by the process of focus ($R^2 = .274$, $\beta = .52$) on learning (explaining 27% of the variability of the dependent variable, i.e. direction). Self-improvement is also a significant contributor to the formation of other metacognitive skills, i.e. the rate of self-reflection ($R^2 = .124$, $\beta = .35$), and the rate of adaptation ($R^2 = .117$, $\beta = .343$). It means that the level of metacognitive skills is to some extent dependent on the motivation for self-improvement. The motivation of students for self-improvement determines the rate of direction, self-reflection and the rate of adaptation of students during the course of learning. If students are motivated to improved themselves and work on themselves, they will most likely achieve a higher level of metacognitive skills.
Students who have a greater tendency to improve and work on themselves also know how exactly to proceed in learning (what they should do and how they should do it). They are also more proficient in assessing themselves. This means that they have more insight about themselves and able to realistically assess their capabilities (including healthy self-criticism). Students who are more motivated to improve themselves, also have the ability to adapt their learning to the particular conditions (teaching situation) and if necessary, change their practices and make the most of the analyzed situations far more than those students who are less motivated to improve themselves. The motivation for self-improvement is reflected in the metacognitive learning process, influences the rate of direction, the rate of self-reflection and the rate of adaptation of the students.

CONCLUSIONS

The research results show that the level of self-reflection within metacognitive learning reaches its highest level among students of helping professions. This means that the selected helping professions students have the skills to realistically assess their own abilities necessary for learning. On the other hand, most students show a deficit in the rate of adaptation. The results suggest that students benefit from more consistent learning procedures that do not change much. The question remains why students achieve a lower rate of adaptation. This may be due to the fact that students use stereotyped practices that they do not want to change or have no reason to change them. This resistance to change can have many causes. One of them could be lower academic aspirations, the demands of study or the motivation (tendency) for self-improvement. Students who have a need to do something with themselves and work on their own development can better regulate their own learning and think about their learning far more prudently than students who do not have this need.
The results showed that metacognitive learning does not depend on the branch of study or study year and remains consistent during the course of study (they achieve a comparable level in bachelor's and master's degree studies). Similarly, the motivation for self-improvement develops independently of the level of study, does not change during the course of study (depending on the year of study) and remains comparable with student teachers and health profession students.
The results show that metacognitive learning depends on the rate of motivation of students toward self-improvement. The more the students are motivated to improve and work on themselves, the more they use metacognitive skills (and vice versa). Motivation for self-improvement itself is most associated with the focus on learning. Likewise it is also true that the more students need to improve, the more they reflect on their own learning process and adapt their learning methods to the specific teaching situation. It is evident that the need for students to improve themselves in the learning process plays an important role in the use of metacognitive skills while learning.
Students with a low rate of motivation for self-improvement achieve lower levels of direction, lower rates of self-reflection and a lower rate of adaptation. Conversely, students who have high motivation for self-improvement are significantly more focused on their learning, are capable of a higher degree of self-reflection and can also better adapt their learning to the specific teaching situation than students with a medium and low level of motivation for self-improvement.

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The motivation for self-improvement is a significant predictor of the metacognitive learning of students of the helping professions. If students are inclined towards their own self-development, their efforts are also reflected in their own learning process. This effort largely affects their ability to focus on learning, realistically assess themselves (including a healthy self-criticism), and also to adapt their learning to the particular conditions (teaching situation) and if necessary, change their practices and make the most of the analyzed situations. The study results point to the fact that the motivation for improvement leads to more control over their own learning process and a higher level of metacognitive skills.
In the preparation of future workers for the helping professions, it is beneficial to focus on the development of self-regulated learning. This development goes hand in hand with the motivation of students to improve and work on themselves and their own development. A wide range of influences can affect the rate of motivation of students, but if it is a means to increase metacognitive learning, then it is necessary to devote raised attention to it in vocational training. A very important aspect may be the analysis of the internal needs of the students, highlighting the aspect of usability and meaningfulness of studying (in connection with the application of theoretical knowledge and connectivity with practice). Motivation to improve oneself and one's learning can also be related to the perceived and real demands of study and causal attributions of students (perceptions of the causes of success and failure). Students should be aware of ways to improve and what strategies they can use in learning and how to regulate their learning process. In the preparation of university students a so-called metacurriculum may also be included, i.e. including information on how to learn the subject and manage learning in the curriculum of the particular subject. This preparation can significantly affect students' motivation to engage more fully in their own learning process and to encourage further self-development.

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Metaphors About Histology Education In Students Of Faculty Of Medicine

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ABSTRACT
Metaphor researches, especially used in training studies are used in many areas. The purpose of our study is to determine how medicine students perceive “histology” phenomenon and which factors affect their perception. Our study was conducted with the participation of 300 students from Kocaeli University Faculty of Medicine Class I grader in the academic year 2014- 2015. Students’ gender, age, dwelling during educational life, the reason for selecting the faculty of medicine were questioned and students were asked to produce a metaphor for the concept of histology in the questionnaire. The result of evaluating the questionnaires 200 (100 male, 100 female) students’ metaphors were taken into account. Because the answers were empty or not convenient for purpose, the 100 metaphors of students were not evaluated. The study is based on voluntary participation. It was asked to complete the sentences in the questionnaire "Histology is similar / like ..... ; because ..... ". The students have produced 151 metaphors. The number and percentage of produced metaphors are calculated. Metaphors are divided into eight sections according to the aim at the explanation. The metaphors mostly produced by students were picture, anatomy, parts of the whole and etc.
Our mission as Kocaeli University Faculty of Medicine the Department of Histology is to provide enough firm infrastructures about histology acknowledge both with theoretical and practical training and doctors, who can improve themselves with the universal values and who have the ability to provide community-based health services. So, we believe that the metaphors, produced by our students will be useful for us about, how we must conduct our lessons.

Key words: Metaphor, histology, students of faculty of medicine

INTRODUCTION

Metaphors are figures of speech for telling a thing to be told by likening and comparing methods. And this also is defined as figures of speech in the glossary of the Turkish Language Association (TDK, http://tdk.gov.tr/). Metaphor is a technique to teach things which are not known and a tool proven to be effectual to keep the things which are taught in mind. Metaphor is a very powerful learning and teaching tool (http://metafor.nedir.com/). Using metaphors in education; eases learning scientific concepts and keeping them in mind for a long time, improves scientific thinking and problem solving abilities, ensures abstract concepts which are difficult to understand to be made more concrete, improves the thinking capabilities and creativeness of those who learn and ensures the active contribution of students to the educational environment (Aktekin, 2010). Therefore, metaphor researches are mostly used in departments related to education (primary school teaching, visual arts teaching, computer teaching, etc. (Aktekin, 2010; Kalyoncu, 2012; Gültekin, 2013). Here in our study, by using the metaphor technique, we aimed to determine the feelings and thoughts of the students who take histology education in the 1st class of the Medical Faculty about the histology lessons.

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METHODS

Study Group:

This study which is based on the voluntary contribution of the students in Kocaeli University was realized during the 2014- 2015 academic year with the contribution of totally 300 students in the 1st class of the Medical Faculty. In the questionnaire forms where the age and the gender of the student, the reason to choose the Medical Faculty, where he/she dwells during the education life and the geographical region where he/she comes from were questioned and they were asked to produce metaphors related to the concept of histology. In consequence of evaluating the questionnaire forms, the metaphors of 200 students (100 male and 100 female) were taken for consideration and the metaphors of 100 students were not taken for consideration because they were not intended for the aim of the study or the forms were left blank.

Collecting the Data:

In order to provide convenience for producing metaphors, in the beginning, explanations were made and examples were given to the students. In the questionnaire, they were asked to complete the sentence "Histology is like…….. or similar to…… because, ……". In the questionnaire form, at the same time, the ages and the genders of the students, the reasons to choose the Medical Faculty, where they dwell during their education life and the geographical regions where they come from were questioned too.

Analysis of the Data:

In order to analyze of the collected data, the produced metaphors, together with the other questionnaire answers, were written in the SPSS program and prepared as a list (Kocaeli University SPSS Program). The number and the percentage of the produced metaphors were calculated. It was seen that 151 metaphors were produced by the students. Evaluating the metaphors according to the explanation parts, they were divided into 8 categories (Aktekin, 2010). The number and the percentage of each category were calculated.

FINDINGS

151 metaphors out of 200 metaphors which were evaluated as valid were determined.

The metaphors produced by the students were evaluated together with the explanation parts and divided into 8 categories. After that, the classification transaction was again evaluated by two persons from different fields and the categories became definite. The majority of the metaphors gathered in the "explore/discover" category while the least of the metaphors gathered in the "flown-away-feeling/unhealthy pleasure" category. The categories and the number and the percentage of students in each category are given in Table 1.

Table-1: The metaphor categories the students of medical faculty have about the concept of histology education.

The metaphor categories	**Frequency (F) Percentage (%)**
Disappear /Unknown situation	12 (6%)
Hopeless struggle	25 (14%)
Pain&Pleasure	28 (14%)
Explore/Discover	75 (37,5%)
Guidance/An investment in knowledge	23 (11,5%)
Finding a solution to a problem	10 (5%)
Pain	20 (10%)
Flown-away-feeling/unhealthy-pleasure	7 (3,5%)

In consequence of the evaluation of the questionnaire, the main reason for the students to choose the Medical Faculty is the option "by my own will" with a percentage 33%. The "job guarantee" option takes ranked the second with a percentage 18%. The reasons for the students to choose the Medical Faculty are given in Table 2.

Table-2: The reasons for the students to choose the medical faculty.

Reasons of choosing the medical faculty	**Frequency (F) / Percentage (%)**
My family request	28 /14%
My family lives here/nearby	2 /1%
I own will	134 /67%
Job guarantee	36 /18%

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When we evaluate the categories in which the Metaphors are gathered according to genders, it became evident that the 43% of the female students and the 32% of the male students see the histology lesson as a lesson which adds to exploring/discovering; and 9% of the female students and the 19% of the male students see the histology lesson as a lesson which gives pain and pleasure at the same time. The category where the answers of the female students were observed to be less is flown-away-feeling/unhealthy pleasure category with a percentage 0% while the category where the answers of the male students are less is "finding a solution to a problem" category with a percentage 5%. The distribution by gender of the metaphor categories is shown in Table 3.

Table-3: The distribution by gender of the metaphor categories.

CATEGORIES * GENDER Crosstabulation					
			GENDER		Total
			MALE	FEMALE	
CATEGORIES	Disappear /Unknown situation	Count	6	6	12
		% within GENDER	6,0%	6,0%	6,0%
	Hopeless struggle	Count	14	11	25
		% within GENDER	14,0%	11,0%	12,5%
	Pain&Pleasure	Count	19	9	28
		% within GENDER	19,0%	9,0%	14,0%
	Explore/Discover	Count	32	43	75
		% within GENDER	32,0%	43,0%	37,5%
	Guidance/An investment in knowledge	Count	11	12	23
		% within GENDER	11,0%	12,0%	11,5%
	Finding a solution to a problem	Count	5	5	10
		% within GENDER	5,0%	5,0%	5,0%
	Pain	Count	6	14	20
		% within GENDER	6,0%	14,0%	10,0%
	Flown-away-feeling/unhealthy-pleasure	Count	7	0	7
		% within GENDER	7,0%	0,0%	3,5%
Total		Count	100	100	200
		% within GENDER	100,0%	100,0%	100,0%

When we examined the geographical regions of students who joined the study, 51% of them came from Marmara Region (102 people). At least number of student was observed in abroad category. Geographical regions of students was shown at Table-4.

Table-4: Students' numbers and rates according to geographical regions which they came from.

Geographical Region	**Number and Rate**
Mediterranean Sea Region	13 (6,5%)
Black Sea Region	31 (15,5%)
East of Anatolia Region	16 (8%)
Central Anatolia Region	9 (4,5%)
South-East of Anatolia Region	11 (5,5%)
Aegean Region	10 (5%)
Marmara Region	102 (51%)
Abroad	8 (4%)

DISCUSSION AND CONCLUSION

Metaphor is a process of constituting a connection between the information in mind which gives permission for perception of a subject from the point of view of another subject (Erarslan, 2011; Gomleksiz, 2013). According to Lakoff and Johnson (2005) who are known with their studies on Metaphorical Thought, "Metaphor is a process of understanding and experiencing a thing from the point of view of another thing and expressing a material of thinking with another shape of human comprehension (Aydın et al., 2010; Lakoff, 2005). Metaphor is not only a verbal figure but in the same time, it is a figure of thinking." In the traditional social psychology, metaphor is a good way to express the thoughts which have not yet been put in words (Aktekin, 2010; Kramsch, 2003). Three basic and prerequisite items have been defined for the metaphor definition to be realized: 1) The subject of the metaphor, 2) The source of the metaphor and 3) The features which are thought to be attributed from the source of the metaphor to the subject of the metaphor (Aybek, 2012; Forceville, 2002). When the metaphor "Histology

resembles visual arts" is evaluated according to this classification, the source of the histology metaphor is the art and the subject of the metaphor is the visual quality of it. It has been accentuated that; just as the comments made in visual arts without knowing the basic knowledge related to that art stand very superficial, everything which can be said about the medical science without knowing the basic knowledge like histology shall stand superficial.

When the metaphor studies related to education are examined, in undergraduate educations; we have encountered metaphorical studies made on science teaching, computer teaching, sociology, culture, etc. As stated in those studies, people, with only a single metaphor and very meaningfully, can express their subconscious feelings about a fact which they cannot directly say or express. Also in our study, when metaphors related to histology were asked, we clearly determined the thoughts of students with metaphors like building drawings, visual arts and puzzles, etc.

Metaphor researches which are made about healthcare field, generally related with working conditions (Krieger, 2011). However there are some metaphor studies which are not about the working conditions as Aybek et.al. from Pamukkale University, who made metaphor researches with medical faculty students' opinions about doctor notion. Our study is about histology which is a part of medical education, not about the working conditions as Aybek et al.

In this study, when we examined the metaphors which were produced by students, 12 students (6%) in Disappear/Unknown situation, 25 students (12.5%) in Hopeless struggle, 28 students (14%) in Pain & Pleasure, 75 students in Explore/Discover, 23 students (11.5%) in Guidance& An investment in knowledge, 10 students (5%) in Finding a solution to a problem, 20 students (10%) in Pain, and 7 students(3.5%) in Flown-away-feeling & unhealthy pleasure groups were found.

As we evaluate the students' purpose of choosing the faculty of medicine, 28 of them (14%) chose the faculty of medicine according to family's demand, 2 of them (1%) chose the faculty of medicine for dwelling their family near the faculty, 134 of them (67%) chose the faculty of medicine for self-demand, and 36 of them (18%) chose for job guarantee.

The most student accumulation was found in discovery&expose category. These results suggest that students come to the faculty of medicine willingly, they have dominantly requests to help people and discover new things. When we evaluate the purpose of choosing the faculty of medicine, the extreme number of student who choose the faculty of medicine willingly, supports our opinion.

Besides, the mission of Kocaeli University Faculty of Medicine is to raise competent medical doctors who have the ability of giving community-based health service and who have global values, make researches of universal scientific value, regarding the requiries of the region and the country, supply high-quality health service, regarding scientific development and principles of qualified medicine, develop community health and be pioneer in solving environmental problems, as having the responsibility of a public organization (http://tip.kocaeli.edu.tr/int/index.php).

When we evaluate the categories in which the doctor candidates produced metaphors about the histology notion, the most metaphor-contained categories coincide with the medical faculty mission.

As we categorized the students according to their geographical region; 13 of them (6,5%) came from Mediterranean Sea Region, 31 of them (15,5%) came from Black Sea Region, 16 of them (8%) came from East of Anatolia Region, 9 of them (4,5%) came from Central Anatolia Region,11 of them (5,5%) came from South-east of Anatolia Region, 10 of them (5%) came from Aegean Region, 102 of them (51%) came from Marmara Region and 8 of them (4%) came from abroad.

As it is understood from the results, since the Histology lesson is based on visual quality and it is elaborate, a variety of metaphors has occurred because of the difficulties which the students have in those lessons. Starting from this point of view, we believe that the medical students should be informed a little more before they meet with histology. The abilities of the students to produce knowledge and to conceptualize and to express can be improved by ensuring them to produce metaphors (Erarslan, 2011). Thus, for the sake of adding to their education to become competent physicians who can improve themselves, metaphor studies should be increased. For the strength of the base of the histology lesson, we should improve the teach ways of the theoretical and the practical lessons according to the metaphors which the students shall produce.

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Modern Piano Teaching And Practice Methods: Considerations And Comparison With Language Learning

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ABSTRACT
Beginning with observations of current procedures in learning music, the author shows that the teaching process in many situations is reduced to mere reading of the notes, with practice being robbed of its most important aspect – the music – focusing only on mechanical repetition of the more difficult passages. After discussing how performers and composers faced this topic in the past, the author analyzes some problems resulting from a wrong approach to music. He provides diverse solutions and possibilities, illustrated by concrete teaching examples based on his experience, referring to some of the most authoritative piano literature. (In the following summary this last section is limited to the example of Bartok's *Mikrokosmos*.)

Keywords: teaching piano ; practice piano ; piano technique ; learning music ; music class ; early music ; keyboard treatises ; bartok.

1. AN OVERVIEW OF MUSIC TEACHING METHODS AND THEIR CONSEQUENCES IN PRACTICING PROCESS

My considerations are based on almost 20-years of music teaching experience in different countries. As a piano teacher, my main experience is acquired in front of a keyboard, but I have often dedicated myself to the in-depth analysis of other musical subjects and aspects, and the following considerations may easily be extended to music teaching in general.

An analysis of music pedagogy over the last 200 to 300 years reveals many changes. In order to better understand and analyze the matter, let's roughly compare some aspects of modern pedagogy that differ totally from the past (I generalize for brevity). For those who wish to study so-called "classical music", courses offered by schools and universities normally follow a standard path with students attending one hour-long class a week for 7 to 10 months per year. During class, students mainly work on their music with the aid of the teacher in a small or medium-sized practice room, although sometimes in a real studio; rarely do they have chance to practice on a very good grand piano. Any study of other subjects such as aural training, the history and theory of music, and the performance of chamber music is entrusted to another context or teacher. It is even more difficult to find an environment where students can seriously study improvisation, counterpoint and basso continuo as essential training to keyboard studies. Piano students spend most of their practicing time in absolute and rigorous loneliness. On occasions they have a chance to accompany fellow musicians, but unlike wind and string students, they don't often have occasion to practice chamber music. They usually focus on interpretation (though often, we must say, lacking the necessary historical perspective and consequently without a real understanding of the music and the composer's thought) and technical issues (the solution for which is mostly based on mechanical repetition of the same passage).

We know that Bach, Mozart, Beethoven, Chopin, Liszt, Brahms and Rachmaninoff (our list is much longer) were excellent improvisers and composers, not only performers; in their time improvisation and composition were considered essential skills of any musician. They were often conductors and able to play a string instrument as well. They practiced a great deal of chamber music and – at least until the early romantic era – all musicians were able to realize a *basso continuo* on the keyboard. Students generally studied with their teachers for fewer years than today. Classes were held many times per week, and sometimes students served their teachers as assistants, gaining in return an excellent opportunity to learn through experience. To mention a couple of examples: Bach's students often copied out instrumental parts after he had written an orchestral score; Haydn served Nicola Porpora, his composition teacher, as piano accompanist. Teachers used to follow instructions of some of the most accredited treatises (Haydn studied deeply C.P.E. Bach's treatise *An Essay on the True Art of Playing Keyboard Instruments*, and when Beethoven accepted Czerny as a pupil, he asked him to purchase a copy of this treatise), and teachers themselves used to write "customized" music for their students (J. S. Bach: Inventions, Sinfonias, *The Well-Tempered Klavier* and so on).

It would be impossible to analyze in its wholeness this drastic change in the educational background, nevertheless we may partly explain it comparing some differences between modern musicians and their colleagues in the past: presently the performer is no longer a composer/improviser, and in turn teachers may never been performers. Such incomplete musicians have lost the connection with the notation in the sense that they have never used it as a means to intentionally write down their musical thought. They have merely used it passively, without real perception of notation as a necessary set of symbols which convey meaning in a written form. Being unable to use the notation in this way, they will be unable to read it in order to decode its meaning,

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thus they focus on the most superficial and external aspects, giving a mere reading. All students have to deal with a Mozart sonata, a Schubert lied or a Bach prelude; they are simply unable to identify the affect and unable to appreciate what kind of musical choices composers have made in order to express their idea at its best. They just consider speed (tempo) as one of the only important parameter to be respected without any connection to the affective world of that music. Without any intention to generalize, I have noticed this situation in both academic environments, music schools and private classes teaching. In these last two, often teachers haven't received a regular and proper musical training, and parents are unable to evaluate their skills and expertise. In these contexts average of students usually ranges from 5 up to 18 years old, and generally they have their first and crucial impact with musical world.

We should now mention the most direct and common consequence of mentioned teaching methods on the practice process: often – due in part to the incorrect idea that a performance without any wrong note is already considered perfect – teachers stress, directly or indirectly, that students repeat the same passage for hours and hours, sometimes with a metronome, thus generating a mechanical automatism. And also, we should say, insecurity and bad feeling in the students. The result is usually an excessive emphasis on the correctness of the touched notes and cleanness and regularity of performance regardless the understanding of the function of an individual passage within the overall musical structure, and consequently the real integration of that passage. Conversely we do know how some great performers of the Twentieth Century used to practice: Busoni, for instance, used to take care of all single detail of the score and worked same passage at different speeds; Michelangeli considered all notes, dynamics and musical expression within the musical context; Rachmaninoff focused on the convergence of musical direction within a score towards the climax of the composition; András Schiff suggested to practice slowly and to never separate technical difficulties from the music; and György Sándor preferred to relax after 20 minutes of serious practice. Similar statements abound about musicians of previous centuries. In addition, we also know that some modern musical methods for children, such as Dalcroze, Kodaly, Orff, focus on both melodic and rhythmic aspects before approaching any specific instrument, never intending that mechanical repetition and automation should be part of the learning process.

2. LEARNING MUSIC: A COMPARISON WITH LEARNING LANGUAGE

In my opinion, and for reasons explained below, a teaching method based purely on reading the notes, and consequently a practicing method based merely mechanical repetition, not only limits discovery and fulfillment of the music's meaning, hampers integration of individual components of the musical thought (a melody, an arpeggio, an accompaniment or a running passage) within the whole composition, but has the potential to damage students' physical and mental health.

Music and language learning may be usefully compared: as we know, young children learn language in an extremely spontaneous manner, purely based on imitation, repetition and dialogue with their parents. They simply follow the "learning speed" of their brain, appearing to progress irrespective of established rules. They learn how to read and write after they understand the meaning of each word they learn, never the opposite. Teaching them a language by reading (as can happen with music teaching) without explanation of "what" they are going to say is comparable to teaching them the mere "sound" of each single word without awareness of its "meaning". Those words will sound meaningless for children because of their absence from their memory; only able to rely only on their aural memory, they would try to memorize those words as a combination of sounds. Without a cognitive background – whether in the case of language or music – children may not just mangle individual words, but will lack essential emotional expression.

We should also remark the total absence of rhythmic mechanical devices (such as metronomes) in teaching languages; children simply follow the natural rhythm of the spoken language within words and sentences. Accents, expression and articulation, although related to innate meaning, are missing from written language; but when children are taught to read and write after having learned how to talk, they can understand and properly articulate the written word. Teaching a language by starting with meaningless reading would of course miss all these expressions and articulations. Moreover more curious and imaginative children will generate their own new and original forms of expression and articulation.

This comparison may be extended to discussion of rhythm. Before children learn to walk, most of them begin with crawling, gradually improving coordination and balance. They never start by marching! In music, a sense of rhythm should be encouraged in a similar way, by playing, singing and dancing together. Confining the understanding of rhythm merely to counting or beating hands in time has at least two unwanted side effects: it makes children dependent by an external rhythm and so unable to feel the music's own rhythm, and it installs in their minds the idea that all notes notated with the same symbol have the same temporal duration (all authoritative treatises I know teach us that notation is not intended to be understood in this way). The metronome was invented in order to give the beat to dancers, and to make possible written information about the speed of music, but not with the intention of practicing music with it beating in the background, which interferes with the natural flow of the music. If used incorrectly, the metronome leads to an incorrect reading of the score based on

mathematical division of notes into mathematically uniform parts.
I have noticed that, when faced with a musical score, students who learn and practice music using a metronome often react by ignoring the direction of a musical sentence, instead accenting each note (often with impulsive shaking of their wrists); their rhythms are incorrect with some notes longer or shorter than their correct duration, with rests often omitted – as if spelling a text without understanding the meaning, or spelling one word at a time without understanding and regardless of the context. Unfortunately such students do not realize their mistakes, since they ignore underlying cause, or worse, they think that a wrong note is the only mistake they could make. They merely press down the keys, as a sort of conditioned reflex dictated by the score in front of them. Thus any passage may be played incorrectly.

3. CONCLUSION: HOW TO MANAGE A MUSIC CLASS

Moving on the next part of my discussion, I would like to propose some different strategies that, according to my almost 20 years of piano teaching experience, may make the learning process valuable, challenging and stimulating, for both teachers and students.
Music classes, like other pedagogical environments, should always be based on a two-way discussion. The teacher should be flexible with their teaching method as each student has a different mind and personality. One of the most strenuous tasks at the outset is to observe the student's personality in order to realize why he/she is there, what he/she really wants, and how to stimulate his/her curiosity in the best way. Fantasy and creativity should be used, and never forget that a class is an occasion FOR THE TEACHER to learn something, not just for the student. The class should be integrated with the study of counterpoint and basso continuo (intended as a way to create and manage melodies and harmonies respectively) and should not be confined to study of one musical instrument, rather used to explore orchestral music, opera and other musical genres with students. Furthermore, other arts such as painting, ballet and architecture and also scientific disciplines such as anatomy and mathematics should be taken into consideration during the class. The teacher should improvise and play together with student, whether by playing piano four hands, singing or accompanying them with a percussion instrument. The teacher should also teach the student to consider music within an historical perspective. Theory, musical instruments, musical conventions and aesthetics have changed over time. For example, a vocal trill in Caccini is neither the same as in a Bach invention, nor in a Chopin Nocturne. Keyboard instruments in Mozart's time and in his geographical area were not the same of romantic ones, and there is a significant difference in the technical approach between galant style music and romantic compositions. Teachers should also not forget to mention historical treatises, as one of the best source of information of the past.

4. IN MY CLASS

Some experiences I had in my classes illustrate how I teach using a different and customized approach with each student. I will present a music selection from some of the methods I consider valuable and useful. Despite the authority of the method and its inventor, we should always keep in mind that even the best method ever written doesn't produce the wanted effect if not used in the proper way. Often authors have written a foreword: it's usually a relevant historical statement and a clear set of instructions supposed to be read, understood and used in order to obtain the best benefit from that book. I have decided to write this section because I often noticed with disappointment that neither students nor teachers have an idea of what the author has prescribed (even the introduction Bach wrote to his Inventions is often totally ignored). Sadly, teachers ask students to practice exercises, taking care about the correctness of notes.

About Bela Bartok *Mikrokosmos*:
I consider Bartok's *Mikrokosmos* as one of the best methods to start study of the piano, especially for children. To begin with, I read Bartok's instructions together with the students. I explain that, as they can see, composers were sometimes also writers, scholars, performers and teachers. We listen to some of Bartok's music in order to have an idea of the composer. Then, we start and work with music. As Bartok suggested, I ask students to sing the melody of the first exercise. At first without score: I ask them to imitate my singing or my playing.

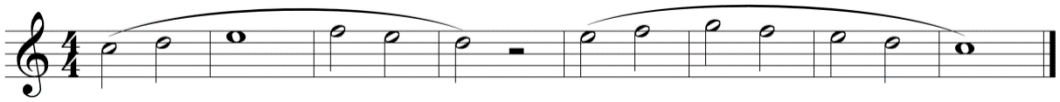

Fig. 1. Bartok *Mikrokosmos*: Melody n. 1 (Original)

When students are not so confident with the keyboard, finger position and articulation, singing a melody is the best way to make contact with music and its manifold aspects. I observe the way they sing. It's normal for some students to be shy, and I have to kindly insist before even obtaining a feeble sound. To encourage them I sometimes sing first, then I sing together with them, then I let them sing alone. This first phase has a variable duration and depends on the students' personality; I give them time to understand. Then, I observe again the way

they sing: whether they can give a sense of direction to the melody, whether they just sing note by note, or even just say the name of notes without changing pitch. If necessary I again show how I sing and ask them whether if they can identify the direction of my melody and identify a climax. I also move my hand up and down my hand in order to make more visible the direction of the melody, and I ask them to move their hand while I sing. More generally, we try to go through the essence of the melody, and the first step is identification of its direction: since I am sure that a 6 or 7 year-old (or younger) cannot listen music as adults do, I need to have some confirmation of their understanding. As further confirmation and to provide students more input, I watch with them some examples of good singers and I ask them to figure out the direction of the melody and to describe the performance. Sometimes (according to our point of view, as "experienced" musicians) they focus on some irrelevant aspect, other times they describe the correct direction and some dynamic change with simple words. After this first experience, generally they feel more confident and little by little they are able to sing the melody.
In bar 4 there is a pause: this is a very interesting occasion to explain the meaning of that symbol and more generally, the importance of pauses in music. According to my experience, a very good way to show students the function of a pause (written or not) is to compare it with taking a breath, and "sing" it using silence. I let them try. Even though at the first attempt its duration will be approximate, they will realize truly the function of that symbol. I have not found that beating a pulse is the correct way to explain the meaning of a rest, as it's not purely a matter of duration of the sound. In this case also, a comparison between music and language may clarify the point. I work in a similar way when students have to understand the different duration of notes, such as whole and half notes that appear in this melody. Students will fully comprehend the difference in duration not by beating the tempo, but by explaining that a different duration simply refers to the movement of the melody as a curved line. Melody lingers for longer on some notes, so in a way these are more important than those with short duration. Consequently, notes with a different duration could not have the same sound and intensity. Different temporal duration is only a consequence of this reasoning. In the first two or three classes with students that cannot yet read music, I never use to beat the tempo. This may well be the most time-consuming way to teach, but also the most effective. I frankly admit that in other cases and especially with older students, I also support students by beating tempo. Sometimes their mistakes come from a misreading, and beating of a tempo is the best way to let them understand. But I always explain how the tempo should function.
After this first approach with the melody, we try to perform it on the piano. Generally I ask students to play the right and left hands separately, but this depends on the individual student. In this further step I check their ability in transferring what they have sung onto the instrument. Generally the direction is less clear, but it's quite easy to improve once they have experienced it by singing. Next, when they reach a level of confidence with the melody, I ask them to modify the written melody by adding here and there some accidental, and I ask them to compare the original version with the new one. Since the melody does not require a change of the position of their hand on the keyboard, I suggest they change the position of a chosen finger and, for instance, place it on a black key, and then play the melody as written. They easily realize and express in simple words that even one different note changes the affect of the melody, and consequently the variant melody cannot be played like the original one. So I ask them if, in order to fulfill the new affect, whether or not we should slow down the melody or play it louder. I play different examples and let them choose. As a first attempt to enter deeply the character of a melody this is already a great result. Later, and step-by-step, I explain why a different note (it depends which note of course) can cause such a big shift in the affect of the melody.
Since the range of the melody is quite limited, it's quite easy to transpose it, and that is what I usually ask at this point. I ask them to move the melody in different position, starting with a different note, and to perform it in contrary motion and retrograde motion using both original and transposed versions.

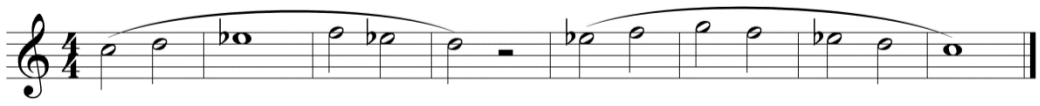

Fig. 2. Bartok *Mikrokosmos*: Melody n. 1 (Minor mode)

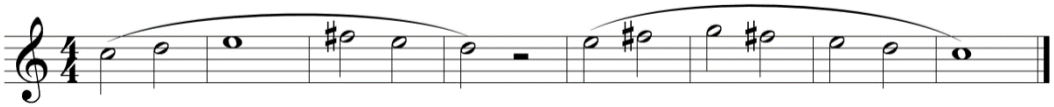

Fig. 3. Bartok *Mikrokosmos*: Melody n. 1 (Lidian mode)

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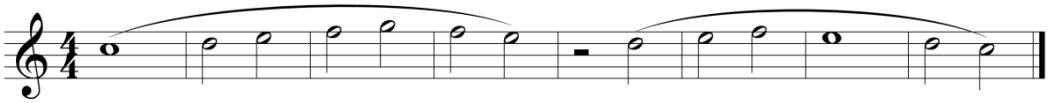

Fig. 4. Bartok *Mikrokosmos*: Melody n. 1 (Retrograde motion)

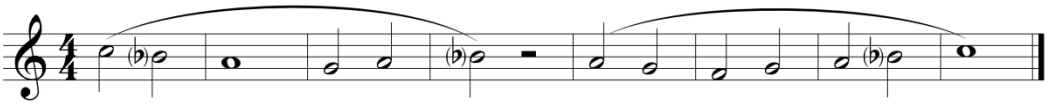

Fig. 5. Bartok *Mikrokosmos*: Melody n. 1 (Inverted motion)

This will reinforce memory and musical thought. When one day they face inventions and fugues, and other compositions based on imitation or counterpoint, it will likely be easier for them to understand the structure and enjoy the music. I let them make some experiment, trying to understand how their brain processes information though the analysis of their mistakes. I also ask them to vary the melody in whatever way they wish; later it will be easier to discuss improvisation and composition.
I continue in this way with the first 8 to 10 exercises, testing students' temperament and skills each time. After one or two months, students generally develop the necessary skills to proceed with practicing more difficult music.

About Johann Sebastian Bach's *Little Preludes*:
Almost all sources and treatises from the baroque era state that a prelude is intended to be a written-down free composition in improvisatory style. As we know, Couperin, Rameau and other composers were authors of a unique way to notate preludes: making them free by a measured notation, they invented the *Prélude non mesurée* (unmeasured prelude). Now many scholars agree that the key to decipher the hidden meter of such a composition – "unmeasured" does not mean "without" measure – is a deep understanding of its counterpoint and harmony, the rhythm being strictly related to these. This approach to music should be applied to all music, as composers of the past seem to indicate. Unfortunately, as previously stated, students' attention is often led in the wrong direction, merely to respect the written duration. Sadly, it's clear that students are used to approach, practice and play preludes (by Bach frequently, but also by other composers) without any knowledge of the above musical elements and, worse, without any knowledge of improvisation. The same problem, but worse, can be observed in advanced students in their attempts to perform cadenzas in Bach and Mozart concertos.

J. S. Bach's *Little Preludes* offer the possibility to understand and solve the problem at its root. Clearly the study of Couperin's *Préludes*, as well as the reading of his treatise is recommended even more strongly, especially for piano teachers unfamiliar with pre-Bach keyboard literature, but in my opinion the clear and concise texture of Bach's *Little Preludes* is more accessible and easier for young students. When some of my students attain the necessary skills, and are accustomed to realize some easy basso continuo, I give them Prelude n.1, BWV 924 notated without any durational symbols or bar lines:

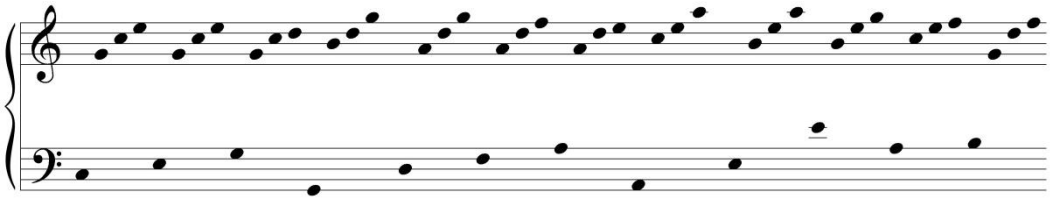

Fig. 6. Bach *Prelude n. 1, BWV 924* bb. 1-3

I ask them to play the piece, and from their performance I realize where we should focus our attention. Usually the first step is an attempt to understand the correct harmony. I ask them to observe the notes carefully and group them into harmonies they already know. Generally the first two beats of the first bar are quite clear, but on the third beat there is something unclear, so I explain about suspension and, as dissonance, how to treat it properly. Continuing with the analysis, I ask them to pay attention to other suspensions and find a proper way to play them. I consider this Little Prelude an outstanding example to introduce a student to the basic principles of harmony; after a general appreciation of the meaning and function of dissonance, I ask them to improvise easy harmonies using rules they have learned. The next step is to understand the harmonic movement in the first eight bars. Basically we move from the tonic to the dominant, stopping on some degrees of the C major scale. I let the

students discover which degrees are more relevant by analysis of the bass line and I suggest they give these more emphasis. I let the students realize that in only eight bars six degrees of the scale (except the seventh) are touched – how interesting and at the same time simple is Bach's harmony!

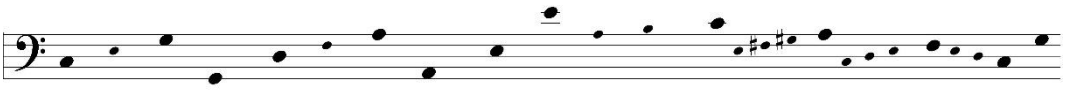

Fig. 7. Bach *Prelude n. 1, BWV 924* bassline bb. 1-7

After becoming familiar with this first part I ask them to extemporize similar cadences in C major and other keys, both major and minor. Bars 9 and 10 represent a simple ascending repetition of the same arpeggio between the first and the last part of the prelude, keeping the same harmony. Students realize that the function of this part is a mere connection, so they perform it without particular emphasis (as when we say the conjunction "and" between two words). After that, we move to the most challenging part of the prelude, where the composer clearly wrote an improvisation upon a dominant pedal. Here the students' musical instinct struggles with the harmony, so I suggest they rely on their melodic instinct to try and solve the enigma in a plausible way. I suggest they focus on intervals and jumps of some notes in order to give direction to their extemporization. The passage is not always clear, so I may propose diverse possibilities in order to stimulate their critical sense, asking their opinion from time to time. Bach sometimes introduced similar cadences within other Little Preludes, an excellent stimulus for students' imagination.

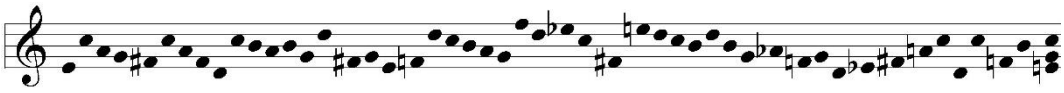

Fig. 8. Bach *Prelude n. 1, BWV 924* bb. 15-17

During study I also perform the piece with the students, and the more curious students always offer some in-depth analysis. This process takes from 3 to 5 classes. Only then I show them the Prelude notated in the original way. After this attentive and careful work they are usually able to perform the prelude without a blind respect of the duration superimposed on the notes, and with an appreciable understanding of the music. Similar methodologies may be applied to some other preludes as well as other pieces. The good and clever teacher may discover other interesting ways to let his/her students discover and appreciate these valuable little compositions.

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Needs And Expectations Of Organizations Towards Educational And Communications Technology

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ABSTRACT
The Department of Educational Technology, Faculty of Education Kasetsart University Thailand is mandated to regularly update the curriculum to produce graduates with expertise on production, development, and research as well as management of technology and modern communications for instruction. This mandate highlights values and virtues to lead in the development of information technology, media, and communications. This paper primarily aimed to explore the needs and expectations of public and private organizations towards graduates in the fields of technology and communications studies at the Master and Doctorate levels. In general, the samples of this study included executives and supervisors in 50 public and private organizations. Online questionnaires about the appropriate attributes of educational and communication technologists that organizations need were used to collect data. In addition, the expectations of organizations regarding the technology and communications studies curriculum at the Master and Ph.D. levels were determined. Findings revealed that the needs of organizations included concept specialization particularly on the creative use of modern technology, expertise in the field, ability to work, integrated, knowledgeable, had a vision and exemplifies the values of honesty and loyalty to the organizations. Research results would be useful in improving the teaching and learning curriculum of the Department of Education Technology and Communications in accordance with the needs and expectations of different organizations in Thailand.

Keywords:needs, expectations, organizations, educational technology

INTRODUCTION
According to needs should generally be more objective than either wants or demands (Cooper, Rosemarie; Dempsey, Paula R, 2015). These are likely to be at least partially based on reason or logic. These are elements that are instrumental. If people do not have their needs met, they may tail to achieve a goal. Expectations are the standards against which a service provider's performance should be judged. In Thailand, the National Social and Economic Development Plan (The National Social and Economic Development Plan No. 11 C.E. 2012-2016) aims to enhance the economy by developing production and services based on knowledge and creativity. Creating economic security by promoting the use of information and communications technology in professional development includes supporting the development of creative media to create new values. In addition, this aimed to keep pace with the current changes including the development of a workforce with the knowledge and capability to build a creative economy. Education and training have very important roles in acting as the creator of qualified workers to meet the needs of the labor market in the country (Piriya Pholphirul, 2014). Both public and private organizations emphasized the needs and expectations to encourage personnel to work more efficiently and show high productivity. It aimed to give people in Thailand the potential to create and accumulate knowledge. The guidelines in the development and creation of learning resources support the factors contributing to lifelong learning and significant impact on curriculum development in order to have access to all sources of knowledge thoroughly and do not discourage discrimination. In this regard, educational communications and technology should play vital role in improving the learning contexts for the 21st century. The impact of external circumstances to develop proactive programs need to be tailored to the potential and can be adjusted according to changing economic trends. The curriculum is based on standards and quality assurance that sought to be at par with the standards set for universities in Thailand and in other countries. This also aimed to modernize the course content and improve research directions.

STUDY
This study determined the needs and expectations of departments and external organizations in Thailand. The samples of the study included administrators and heads in both public and private sectors, and personnel appointed as commissioner of educational communications and technology. Online questionnaires were developed with a PollRunner application which included three main issues: 1) respondents' work description in the organization; 2) needs of the organization; and 3) expectations for the technology and communication programs at the Master and Doctorate levels. Initial results showed that 58 percent of respondent belonged to government organizations, 21 percent in private businesses, 15 percent in corporations, 4 percent in state enterprises, and 2 percent as independent entities (Fig.1).

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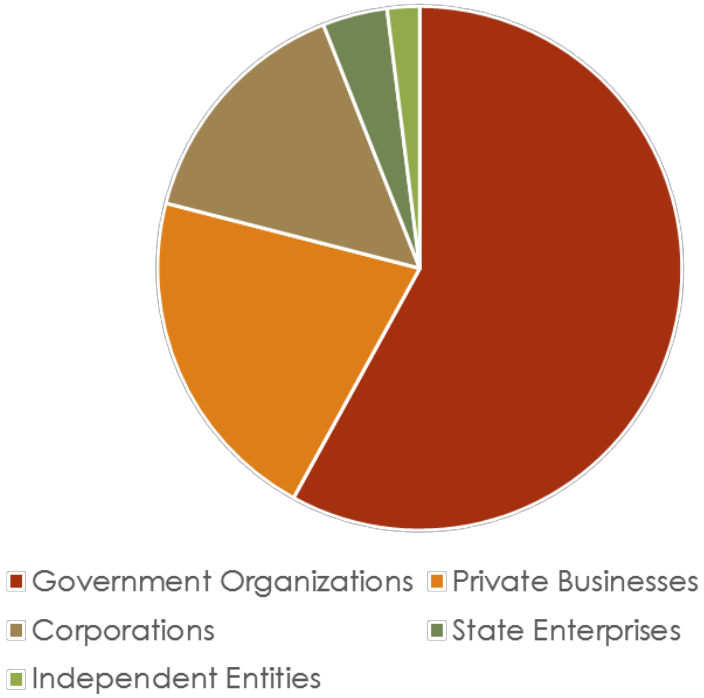

Fig.1 Respondents of the study

Data obtained from the questionnaire were analyzed and grouped. Organizations' needs were classified as follows:
1. Expertise in the field
2. Ability to work
3. Integration

Meanwhile, expectations of the organizations with regard to educational communications and technology graduates were categorized into the following:
1. Knowledgeable
2. Have a vision
3. Exemplifies honesty and loyalty

FINDINGS

Research results showed that organizations were interested on having personnel who had a Master and/or a Doctorate degree. There were numerous positions in government organizations that support educational communications and technology. This was followed by those employed in private entities. These organizations preferred many factors in terms of personnel, technology, and communication studies.

Six expertise in field were identified. These were: 1) knowledge on media production; 2) knowledge and skills on graphic, web, and applications design, and in other specialized programs; 3) good communication skills; 4) leadership abilities and professionalism; 5) good understanding of education concepts; and 6) creativity and skills in using up-to-date tools and technologies (Fig. 2). These expertise should be able to apply in the job properly.

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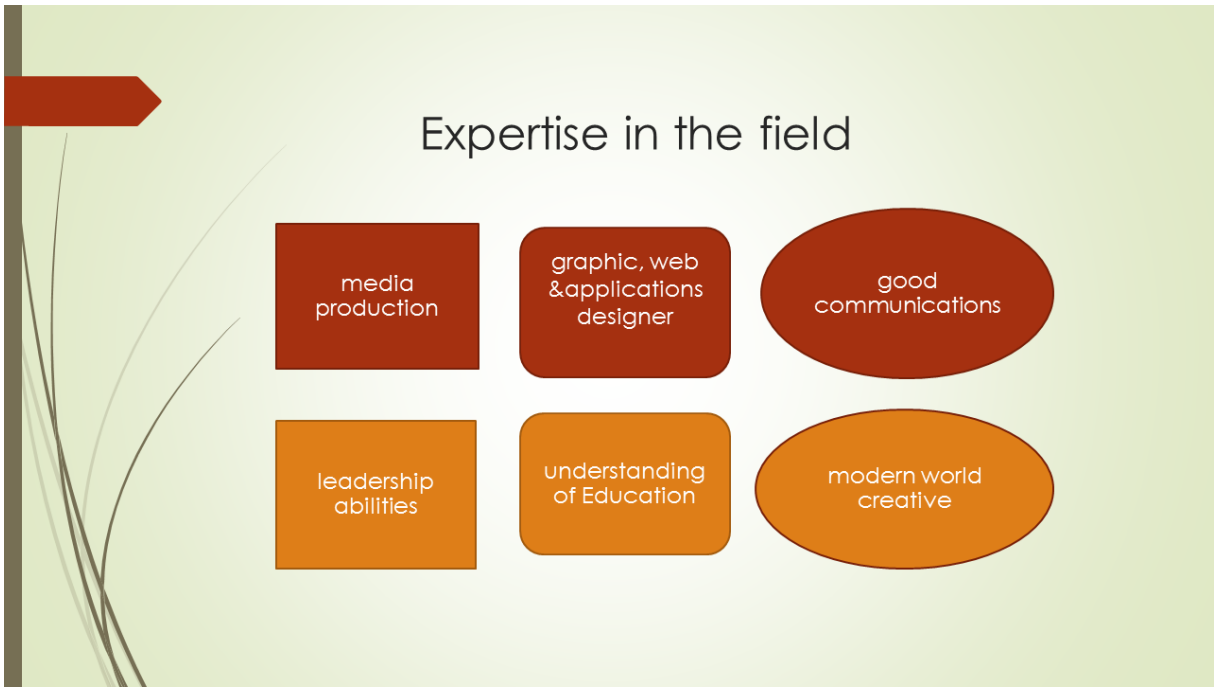

Fig.2 Expertise in the field

Ability to work pertains to the use of up-to-date technology and communications units. These included factors such as fast communication and effective system media development and innovation that apply theories and practices; knowledge and application of educational communications and technology that involve creative ideas; and development time and production efficiency.

Integration dealt with creativity in planning and in operation systems. Fig. 3 shows the different factors that should be considered in integration. Appropriate technology should be applied to benefit the organizations especially with goal-oriented services in harmony with spiritual responsibility. Loyalty to the public is always seeking new knowledge. A better understanding of the work and think like do in new things. Good communication skills refers to the method of disseminating the needed information. Proper application of technology include having initiatives and courage to think about new and bold ideas. Lastly, excellent knowledge and skills in using technology also served as another factor in integration.

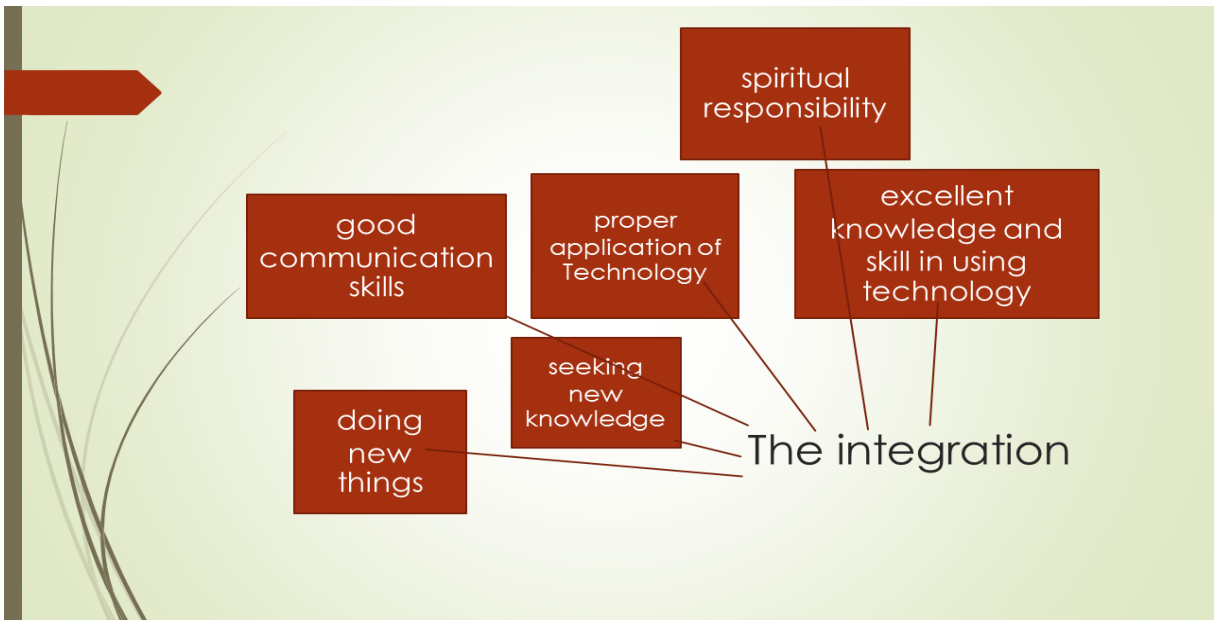

Fig.3 Integration in organizations

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Expectations toward graduate programs in educational communications and technology primarily included the knowledge and expertise in handling new technology and applying various methods and tools of communication. These expertise included skills in using the media properly and the knowledge on media production and development; proficiency in using different materials for various applications; well-versed in the discipline and in using applications; innovative in applying principles and theories related to educational communications and technology.

Fig. 4 shows the different factors identified with regard to visions on the effective use of technology. These factors included: 1) Media applications as well awareness to the activities of the organizations; 2) Creative and progressive ideas; 3) Development to keep pace with current changes; 4) Proficient in foreign languages; 5) Disseminate knowledge in the field of technology adoption; 6) Technology development and innovation to further enhance the patent and copyright; and 7) Competency in research, technology, and communication studies.

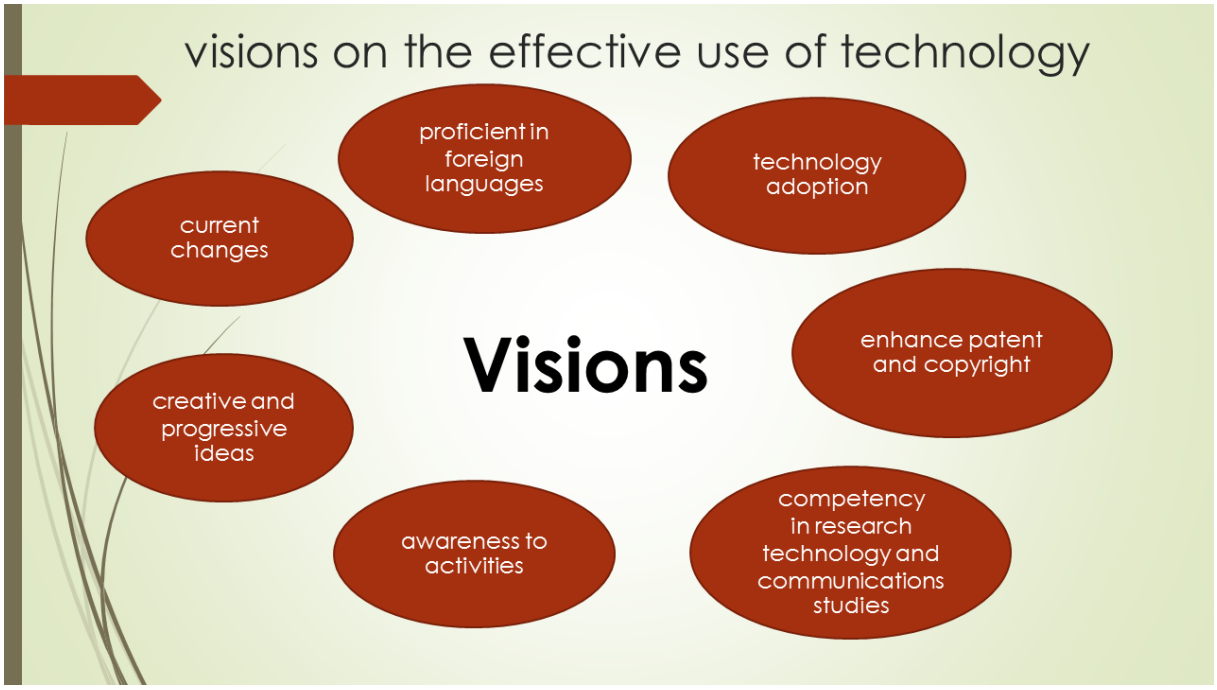

Fig. 4 Visions on using educational and communications technology

This study highlighted the importance of the values of honesty and loyalty to the organization. In addition, Ph.D. graduates should have the expertise in proposing new and relevant theories. The educational communications and technology program has also established a link with professionals abroad. This contributed in the enhancement of applications, analytical and innovative educational communications and technology skills, pursuing new knowledge, creativity, establishing principles that guide the actions and activities in order to achieve the objectives, developing modern media, as well as knowledge transfer. The department addresses these issues by enhancing students' foreign language capabilities, knowledge on technology use, expertise in design, development and innovation as well as an application that can benefit the organizations.

CONCLUSIONS

The Department of Education Communications and Technology has a primary goal of teaching and conducting research to develop students' work to the serve society. The department regularly improves the curriculum and instruction to address several issues. Some of these issues included the design of technology and system development that have the ability to communicate and pass on knowledge to others; creativity and application of the duties properly; and keeping up with the pace and with the changing needs of the global society. With the expertise and experience in using the learning tools and technologies, problems would be properly addressed. In addition, this study also found out that values such as honesty, discipline, and ability to work with others are very important factors to one's success. The needs and expectations of organizations with regard to graduates of Master and Doctorate programs on educational communications and technology were as follows: expertise in the field, ability to work, integrated (Melissa E. Pierson, 2014) knowledgeable, had a vision (Peter R. Albion, Peggy A. Ertmer, 2002, Matthew Koehler, Punya Mishra, 2009) and exemplifies the values of honesty and loyalty to the organizations (Maaja Vadi , Krista Jaakson, 2006). Thus, the Department of Educational Technology, Faculty of

Education, Kasetsart University aimed to regularly update its courses in the graduate program. The curriculum to be taught in 2016 is essential in addressing the needs and expectations of various organizations in Thailand.

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On The Problem Of Moral Principle And Moral Value

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ABSTRACT
In addition to evaluating the possibility for a universal morality in terms of moral principles; moral values, which are another problematic area of morality should be considered. This study includes an evaluation of ideas discussed by numerous philosophers and schools of philosophy on the universality and relativity of morality and values from the first age to the present time, within the context of moral education and development of the humans. Within the scope of axiological, deontological and theological moral act definitions, the concepts of good, virtue, justice, freedom and responsibility – being the very basis of moral principles – will be discussed within the scope of metaphysical moral context from ancient times up to now from different perspectives due to their essences.

INTRODUCTION

The concept of morals has existed in every age in the history of mankind and differed. There have been distant and even converse moral sentiments in the context of evaluating values, which value is preferred to which value and the variability of spiritual perceptions and needs both among societies, cultures and classes in the same century and in different centuries. Etymologically, the origin of the word “ahlak” (morals) derives from Arabian. The word “ahlak” is the plural version of the word *hulk* in Arabian which specifies a behaviour that a person conducts as it is required by their nature (Gündüz, 2010). The word ahlak (moral) which is derived from the word *ethos* in Greek that means character in Western languages and from the word *hulk* in Arabian that means “nature”, “temperament”, “character” in Turkish (Cevizci, 2006; Cevizci, 2008) has a similarity with the word "ethic" used in antiquity. The word “ethic” derives from “ethos” in Greek and the word “moral” derives from “mos” in Latin. Both “ethos” and “mos” signify custom, tradition, mores, habit, sensitivity that one is used to, etc (Özlem, 2004; Pieper, 1994). The significance of the concepts of morals/customs is more similar to habit, convention, and traditions (Pieper, 1994).

Source and Nature of Morals

The source of morals has been shaped with the presence of mankind whereas the nature of morals was born and has been shaped with human relationships and mutual rights and laws. This shaping has been different between ages and between societies living in the same age. However, morals did not lose any of its reason to exist, preserved its essentialness and kept similar action/significance fields always alive as courses of action. For instance, doing a kindness has always been an action without provision as required by the nature of morals and doing a kindness has always had significance for mankind. The fact that moral principles and rules have been specified before us or developed and changed by us should not harm the moral acceptance and togetherness – so that a common understanding could be reached and desired moral acceptance and togetherness could be kept alive. Source of morals and the values that feed them, apart from religion and God as its master, construct morals without showing any status favouritism among majority. This is because morals are related to the fact that people adopt/make others adopt the moral rules and principles and reflect them in their actions most appropriately, not related to their statuses. Therefore, no matter what our status is, living according to the best and most extensive moral principles and rules for a harmonious and fair life that is desired by everyone matches up with the most desirable moral understanding. In addition, as the presence and nature of morals could not be obtained with any financial power, it is inevitable that every willing conscience would reach it (Güngör, 2008).

The Subjectivity and Objectivity of Values

It is obvious that sophists, who were the first representatives of relativism in the history of philosophy, exhibited a subjective philosophical attitude as it will be understood from the statement, “Man is the measure of all things”, a saying by Protagoras.
On the problem of values, the sophists considered that humans qualify and attribute on the value, that is, they make sense of the object or phenomenon. Despite the fact that they did not directly discuss and deal with the problem of values, their relativist understanding prescribes them as the first defenders of relativity of values. Sophists, regarding the distinction between the natural one, *physei*, and the unnatural/artificial one, *thesei*, advocated that values primarily equality and justice are adherent to the field of *thesei*, in other words, the human and social field. In this respect, because the values are determined unnaturally/artificially by humans instead of a universal

bindingness like the natural laws, they are reduced to level of a thought that does not apply to everyone all the time. Thus, this portrays the multiplicity of values in the social life and the actually experienced relativism in terms of values from the perspective of sophists. (Özlem, 2002; Yalçın, 2002)

Universal Moral Principles

The Principle of Good

Just like it includes the meaning of being useful and profitable in Turkish, the word "good" includes meanings of wealth and goods in its Latin root derivating the word "bonum". This etymological examination shows that being good creates a materialistic usefulness in its base (Hançerlioğlu, 1993). The concept or perception of good in the perception of humanity can be defined as a moral principle and value whose conformity with its essence is worrying, but which is assured since it will fit into its place among the moral maturities – making good an assuring principle and value ultimately as well. This concept or perception of "good" does not refer to someone else's good, but to the pure "good" making everyone unexceptionally satisfied or "good" which is the opposite of the concept "bad" that creates unpleasant condition for everyone. The desirability of good for everyone is related to the fact that everyone wants the good not just for themselves, but for everyone.

The Principle of Virtue

The coinage of the term virtue comes from the Greek word of *arete*, meaning the every beings' implementation of their own authentic function in the best way (Cevizci, 2005). According to Socrates, who used the word for the people and the activities of people, virtue is the competence giving one a potential to realize what is authentic and suitable for them and a potential to realize themselves. The principle of virtue represents the highest values from the moral perspective since many values being on the foreground, desired by everyone, praised, being good, just, tolerating, modest and etc. are each a virtue. Just like these concepts, other valuable concepts prescribe the people to do something good, the society to take their own interests on the foreground, and to act in a temperate manner. Habits strengthen the permanent placement of virtue in the human character and this finds possibility as required by human nature. Aristoteles, the most significant representative of the morality of virtue in the history of thought, defines the moral virtues as being between two binaries such as justice, bravery, temperance, etc (Cevizci, 2005). For Aristoteles, virtue is the medium between very much and very little (Hançerlioğlu, 1993).

The Principle of Justice

The concept of justice in subject is concerned with being subject to a philosophical questioning. The fact that everyone lives what they deserve shows that while some commit unjust acts, others are exposed to injustice. Just like the other moral principles, the principle of justice as a universal problem carries the sense of justice for everyone for the sake of being universal. Hence, the share people will get from justice may not be the same in terms of the needs and potential of people. Within the context of the principle of justice, for this reason, the needs and potential of others should be considered as in other moral values.

The Principle of Freedom

Freedom, generally, is an individual act by his/her own will, the ability to implement such acts in line with his/her own desires without being blocked by an external pressure or obstacle. Just like the other principles, it is inevitable that the principle of moral freedom confronts with a limitation that acknowledges other freedoms, while being nonrestrictive at the same time. The possibility of the moral principles applying for all the people for the sake of humanity, these being adopted and comprehended sufficiently can, of course, be provided through the principle or consciousness of freedom before all the virtues or principles. An obligation whose request solely depends on the human and for which he/she is responsible is a must for the moral conduct.

The Principle of Responsibility

One of the moral principles is the responsibility. It is asked for everyone to give an account for what they are responsible for. Responsibility is the subject not being independent from the consequence of their act, and the state to actualize their free will. Here, the individual is free, and even this is the moral freedom. Moral responsibility arises out of the consequence of this free act.

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Deontological Moral Theories

Deontological moral theory, which is the moral obligation theory, is not a pleasure and happiness target for the "highest good" within the context of certain norms and principles according to the logic of "*what must be done*" based on the trueness and falseness of the moral action. It is the moral choice that the action is good and intention is suitable to the obligation; not a good or happy result. Therefore, deontological moral theories adopt actions that are suitable to the obligation and contradict with consequentialist moral theories. Within deontological moral theory; in line with norms and principles that have been specified for a desired universal order, obligation-based moral behaviour includes a sense of responsibility before conducting the action. Accordingly, an act conducted by every person within the framework of certain rules independently of the consequence of the act, performing the moral action obligatorily as required by the obligation considering the action 'just' reveals our moral liability. In other words, under any conditions and in any situation, "…only the righteousness of the moral action or its suitability to the obligation" (Cevizci, 2006) is emphasized and the obligation's liability and responsibility are performed. Liability and responsibility arise for the awareness of the obligation within the framework of moral norms and it is also revealed that as a voluntary being, a person performs an independent action. "Autonomy or freedom as the highest norm of principles and moral judgements that determine all kinds of will" (Pieper, 1994) dictates its acceptance and deontological theories may only aspire its purpose, in other words, everybody's conduct suitable to obligation.

Kant states that what is moral cannot depend on the consequence of the action or cannot pursue a purpose or happiness, as this is possible in moral norms and acceptances that are binding for everyone. "…he specifies that it would be wrong to attribute the base of ethics to a goal such as "happiness" which is never agreed by all. In other words, despite the fact that it is called "happiness", there is no "highest good" that everyone would agree on." (Özlem, 2004) Achieving happiness no matter what, reaching a maximum number in terms of pleasure and benefit that is not equal for everyone is not principally acceptable. In the Critique of Pure Reason, it is stated that a general goal order is essential for morality and a general sense of morality cannot be created by single persons according to their desires in the name of happiness, this can only be possible when everyone performs "what must be done" (Cevizci, 2010). "…the concept of happiness is so obscure that no matter how everyone wishes to achieve it, no one can tell for certain and with absolute consistency what they actually wish for and what they want." (Kant, 1982)

Moral values can only be found in the principle of willpower by leaving goals that may affect actions aside. The principle of willpower is respect to rules. When an action is directly right, it has an absolute value if it is required by the respect to rules (Akarsu, 1999).

Axiological Moral Theories

Axiological moral theory, the moral value theory, is a conception that, while being considerably close to the "theological ethics, is a different understanding, not only in terms of how good the consequences of a moral action are, but also in terms of putting forward being morally correct because of the value they contain or materialize as an essential" (Cevizci, 2005) .In axiological morality, the good and value concepts are on the foreground. It shows resemblance with the theological morality theory in the context of the problem of " … which values are of the basis, which thing or experiences are per say valuable or desirable in itself or alone" (Cevizci, 2008). Nonetheless, it does have no desire to expect for a consequence, that is, a purpose such as a theological morality during the course of an act or operation of any instrument. Therefore, the act itself is valuable, good and desirable in itself or alone in the context of means-ends relationship. In this context, a distinction is made between the values of moral or ethical values and instrumental values as well. Moral and instrumental values are different in theological and deontological moral theories. In theological morality, it is that whatever the targeted consequence maybe, it is good and including happiness, whereas the act is the instrument bringing it to the target. The instrument can be the norms in deontological morality; however, the actual thing is the moral values. These are that everyone, being autonomous beings, actualizes the norms in line with the assignment for everyone and maximizes this.

Teleological Moral Theories

Teleological moral theories are also moral value theories like axiological moral theories. "Erek (telos)" in Greek (Akarsu, 1998) means purpose or goal. The notion "teleological" refers to an attitude and significance intended for the consequence of the act in teleology. What is important in this moral theory is that the consequence provides the person with benefit or the action becomes moral as it provides benefit for the person without considering the morality of the action. In this context, teleological moral theory is "the normative sense of ethics which claims that what determines the value of the moral action is the consequence of the act and it is the reverse notion of deontological ethics in this respect" (Cevizci, 2010). As we specified earlier, in deontological moral theory, the

action that is 'just' and 'suitable to obligation' for everyone within the frame of certain norms according to the sense of obligation is performed through the conduct of moral order and moral action rules. Unlike the teleological morality, an autonomous being should not ignore 'the principle of obligation' in the name of morality even if the consequence is unfavourable. However, teleological morality is based on the opinion that the morality of the action depends on the needs such as goodness, benefit, pleasure, happiness, etc. that are met by the consequence.

Deontological theories here only use deontic notions and focus only on the moral action's righteousness or its suitability to obligation. Secondly, deontological theories argue that certain acts should be performed as they are truly or essentially true or depend on principles; whereas, teleological theories claim that certain things or types of acts should be performed by considering their consequences (Cevizci, 2010).

Moral Value

Moral values, along with the other values, constitute a part of the value system of human; in other words, each value type is in an organic relationship with each other as being the part of the same whole (Çınar, 2013). The problem of moral value includes subjectivity and the objectivity of values, their structure, whether they carry meanings in an essentialist or an existential manner, and also the types of value valuing, valuation, evaluation, etc. and their discussion in many different contexts. In fact, all of these arguments have a morality in itself, either in a subjective or an objective manner since, most of the time, value being the topic of discussion is of its correlation between the orientation to itself or if by any chance, the person if they bear an essentialist existence with a choice, that is, a need or a desire to choose among numerous values ultimately. These choices, besides being on which value to choose over which other or on which value having a priority, show that a person – along with interest and needs – is in an attitude toward an evaluation on the good and bad, pleasing and satisfying among the others. Therefore, moral value has just been discussed not only on the concepts of being good and bad, but also on different concepts since the value is sought in happiness, beauty, pleasure, interest, etc. Nevertheless, most of the concepts such as pleasure, happiness, interests, beauty, etc. are formed based on the concepts of good and bad. All the "highest level of good", to "escape from pain", to be close to "aesthetic value", "to act in line with what is assigned" – are assessed as being close to the "good" and abstaining from "bad".

CONCLUSION

The problem of moral values includes several discussions related to values within various contexts such as the subjectivity and objectivity of values, structure of values, if they have an essential presence or they gain significance with the existence of man, in addition to value types such as evaluation, appraisal, assessment, etc. In fact, all these discussions have a certain morality within the frame of subjective and objective approaches within themselves. Most of the time when value is a subject of discussion, the tendency shown to this value or if it has an essential presence, its call to this essential presence is, after all, related to a selection made among many other values, in other words, related to a need or a desire.

As values are open to be discovered by people, it is inevitable that people make choices within this encompassing. In this case, the only possibility to set man free is the decision to accord to what these values demand from him or not. When man tends towards or agrees to what values demand from him, he starts his action in the context of the value that he has agreed which introduced him to a certain determination (Özlem, 2007).

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Opinions Of High School Students About Mathematical Proof

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ABSTRACT
This study aims to discover the varied opinions of high school students about proof and mathematical proving. Accordingly, the research is carried out on 136 high school students studying at all grades of in a high school in the Erzurum during 2014-2015 academic year. Data were collected and prepared by researchers in the three open-ended questions with data collection tool. This data of the research are collected by taking written answers to the questions posed to students. As a result of the study, students generally define the proof as "explanation" and "reality". At the same time, most of the students comprehend making a proof as "understanding the accuracy or inaccuracy" and "explaining". And finally, students define making a mathematical proof as "verifying" and "showing the result of the operation". Moreover, opinions of high school students are evaluated and discussed according to grades.

Keywords: Mathematical proof, mathematics education, high school students

INTRODUCTION

Undoubtedly, proof is an essential part of mathematics and mathematics education (Özer & Arıkan, 2002). Mathematical processes start with looking for patterns, discovering relationships, apprehending by intuition, making a conjecture, and ends with more formal processes such as proving and defining (Dreyfus, 1991; Schoenfeld, 1994).

Selden and Selden (2003) refer to proofs as “texts that establish the truth of theorems” and define validation of proofs as “readings of, and reflections on proofs to determine their correctness”. Proving involves “constructing a deductive argument using valid rules of inference, axioms, definitions and previously proven conclusions” (Morris, 2002). According to Stylianides and Stylianides (2009), an argument for the truth of a statement that is “general, valid and accessible to the members of the community” qualifies as proof.

Proof plays an important role in mathematics education, and many studies have been conducted in recent years investigating teachers, pre-service teachers and high school students’ understanding of proof across all grades (e.g. Knuth, 2002; Miyazaki, 2000; Morris, 2002; Healy and Hoyles, 2000; Weber, 2001; Hoyles and Küchemann, 2002; Güler, 2010; Moralı, et al., 2006; Özer and Arıkan, 2002; Stylianides and Stylianides, 2009; Kaplan, Doruk and Özdemir, 2015). Most of these studies report that students have a poor understanding of proof. And students experienced difficulties in the proof process.

Moore (1994) found difficulties in constructing proofs under seven headings:

- The students did not know the definitions. That is, they were unable to state the definitions.
- The students had little intuitive understanding of the concepts. failure to use the concept images while performing proof;
- The students’ concept images were inadequate for doing the proofs
- The students were unable, or unwilling, to generate and use their own examples.
- The students did not know how to use definitions to obtain the overall structure of proofs.
- The students were unable to understand and use mathematical language and notation.
- The students did not know how to begin proofs

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Mathematical proofs contribute to the development and systematization of mathematics (Almeida, 2000; Hanna and Barbeu, 2008). Mathematical proofs increase mathematical knowledge of students and help to develop mathematical thinking (Carpenter, Franke and Levi, 2003).

Mathematical proofs serve many functions related to learnings of students. These functions are verification, illumination and systematization (Bell, 1976). de Villiers (1999), developed Bell's (1976) list of functions of proof and suggested the following model:

- verification (concerned with the truth of a statement)
- explanation (providing insight into why it is true)
- systematization (the organization of various results into a deductive system of axioms, major concepts and theorems)
- discovery (the discovery or invention of new results)
- communication (the transmission of mathematical knowledge)
- intellectual challenge (the self-realization/fulfillment derived from constructing a proof)

The aim of this study find out the high school students' opinions about proof and proving. Accordingly, the following questions related to this aim are asked in the study:

Q1. What do high school students think about definition of prove?

Q2. What meanings do high school students attribute to proving?

Q3. What meanings do high school students attribute to mathematical proving?

THE STUDY

This study employs qualitative research approach. The most appropriate qualitative research design for this study is thought to be phenomenology. The aim of phenomenological research is to aspire to pure self-expression, with non-interference from the researcher (Offredy and Vickers, 2013). This study aims to discover the varied opinions of high school students about proof and mathematical proving.

This research is conduct with 136 high school students studying at all grades of in a high school in the Erzurum during 2014-2015 academic year. Data were collected and prepared by researchers in the three open-ended questions with data collection tool. This data of the research are collected by taking written answers to the questions posed to students. 35 high school students are ninth grader, 39 high school students are tenth grader, 30 high school students are eleventh grader and 32 high school students are twelfth grader. Data collection tool was prepared with reference to an expert academician opinion in qualitative research methods. The views and data collection tool on the basis of suggestions received its final shape and applied to students.

Review of written answers by students show that four students didn't give an answer. So, opinions of these students are excluded from the research. Content analysis method is used for data analysis. The main objective of the content analysis is to reach the collected data to explain the concepts and relationships. Concepts and themes that can not be identified with descriptive approach can be discovered with content analysis (Yıldırım and Şimşek, 2011). In the study, categorical analysis of the content analysis method was used. Categorical analysis process; coding of data, creation of categories, organizing categories, defining and interpreting the findings steps were followed (Corbin and Straus, 2007). Students' responses to questions examined separately by the first and second authors codes and categories it has been created. At the end of the analysis the authors gave final version of the code and categories to come together. Some of the students did not answer some questions. This cases were added to "no comment" category. Students answers are often presented as descriptively. In this way it is aimed to increase the reliability and validity of the study.

FINDINGS

In this section, the findings obtained in the research are offered by tabulating with the categories formed of the answers that the students give to the questions and with the answers forming these categories.
The question "what is proof?" is asked in order to reveal the opinions of the students for the definition of the proof.

It is determined that the answers obtained are collected under nine categories in a way to be 3 categories in the ninth grades, 8 categories in the tenth grades, 5 categories in the eleventh grades and 7 categories in the twelfth grades. These categories are illustrated in Table 1.

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Table 1. High school students' opinions about definition of proof

Categories	9th	10th	11th	12th	Total
Explanation	%38	%34	%26	%31	%31
Reality	%22	%26	%40	%22	%28
Explaining The Accuracy and Inaccuracy	%22	%15	%11	%31	%21
Revealing	%6	%10	%11	%7	%7
Final Judgement	%6	%5	%6	%3	%5
Theorem	%3	%2	-	%3	%2
Occurrence of Something Without Hesitation	%3	%2	%3	-	%2
Questioning the Reason	-	%2	%3	-	%1
Support	-	%2	-	-	%1
Accepting	-	-	-	%3	%1
Redundant Information	-	%2	-	-	%1
Total	%100	%100	%100	%100	%100

Examining the Table 1, students generally define the proof as "explanation" and "reality". When the opinions are evaluated based on the grades, all the grades describe the proof as "explaining the accuracy and inaccuracy" and "revealing". Moreover, one student stated a negative opinion for the definition of the proof. This student defined the proof as "redundant information". Though few in numbers, students also explain the definition of the proof as "final judgement", "questioning the reason", "support", "and theorem "," occurrence of something without hesitation" and "accepting". When the opinions of the students are examined, it is observed that they mostly focus on the verification and explanation function of the proof.

In order to understand what meaning attributed to making a proof by the students, a question like "what do you understand by making a proof?" is asked to the students.

It is determined that the answers obtained are collected under ten categories in a way to be 6 categories in the ninth grades, 9 categories in the tenth grades, 6 categories in the eleventh grades and 6 categories in the twelfth grades. These categories are illustrated in Table 2.

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Table 2. Meaning attributed to making a proof by the high school students

Categories	9th	10th	11th	12th	Total
Understanding The Accuracy or Inaccuracy	%26	%24	%37	%25	%27
Explaining	%23	%26	%20	%37	%26
Indicating the Origin And The Way of Occurence	%28	%15	%30	%23	%23
Strategic Interest	%14	%8	%3	%9	%9
Convincing	%3	%13	%3	%3	%6
Examining	%6	%2	-	%3	%3
Precision	-	%5	-	-	%2
Recognition by Everyone	-	%5	-	-	%2
Reaching a Solution	-	-	%7	-	%1
Result	-	%2	-	-	%1
Total	%100	%100	%100	%100	%100

Examining the Table 2, it is detected that most of the students comprehend making a proof as "understanding the accuracy or inaccuracy" and "explaining". A part of the students attribute making a proof to "indicating the origin and the way of occurrence" and "strategic interest". Though few in numbers, students understand the actions of proof such as "examining", "convincing", "precision", "recognition by everyone", "reaching a solution", "revealing" and "result". When the opinions of the students are examined, it is observed that they mostly focus on the verification and explanation function of the proof. When evaluation is made according to the grade levels, all the grades regard making a proof first as "understanding the accuracy and inaccuracy" and then as "explaining". Accordingly, it can be said that students attribute the proof to showing the accuracy of an expression as well as describing why this expression is accurate. Expressions which form the first most repeated three categories which are "understanding the accuracy and inaccuracy", "explaining" and "proving" are given respectively in the following.

In order to understand what meaning attributed to making a mathematical proof by the students, a question like "what do you understand by making a proof?" is asked to the students.

It is determined that the answers obtained are collected under nine categories in a way to be 5 categories in the ninth grades, 7 categories in the tenth grades, 7 categories in the eleventh grades and 6 categories in the twelfth grades. These categories are illustrated in Table 3.

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Table 3. Meaning attributed to making a mathematical proof by the high school students

Categories	9th	10th	11th	12th	Total
Verifying	%43	%26	%31	%44	%35
Showing The Result Of The Operation	%37	%38	%20	%22	%30
Proving The Theorem	%14	%18	%10	%16	%14
Showing Geometrically	-	%5	%30	%12	%12
Reaching a Solution	%3	%5	%3	%3	%4
No Comment	%3	%5	%3	-	%2
Pile of Operations	-	%3	-	-	%1
Developing a Strategy	-	-	-	%3	%1
Being Satisfied	-	-	%3	-	%1
Total	%100	%100	%100	%100	%100

Examining the Table 3, students define making a mathematical proof as "verifying" and "showing the result of the operation". A part of the students attribute making a mathematical proof to "showing geometrically", "proving the theorem" and "reaching a solution". Though few in numbers, students explain the meaning of making a mathematical proof as "pile of operations", "developing a strategy", "convincing" and "being satisfied". When the opinions of the students are evaluated, it is observed that the students attribute making a mathematical proof to verify a mathematical expression and showing the result of the mathematical operations.

CONCLUSIONS AND COMMENTS

As a result of the study made for revealing the opinions of the students for the definition of the proof, the participants generally state the proof as "explaining" and "explaining the accuracy and inaccuracy". This opinion is in agreement with the definition by Yıldırım (2000) which is "proof is the attempt to provide acceptance for the accuracy or inaccuracy of a judgement, argument or result by showing sufficient evidence". Though few in numbers, students also explain the definition of the proof as "final judgement", "questioning the reason", "support", "and theorem", "occurrence of something without hesitation" and "accepting". When the opinions are evaluated based on the grades, all the grades describe the proof as "explaining the accuracy and inaccuracy" and "revealing".

In order to understand the meaning attributed to making a proof by the students, a question like "what do you understand by making a proof?" is asked to the students. Findings show that the students mostly attribute meaning to making a proof in parallel to the definition of the proof they made. Most of the students comprehend making a proof as "understanding the accuracy or inaccuracy" and "explaining". A part of the students attribute making a proof to "indicating the origin and the way of occurrence" and "strategic interest". Though few in numbers, students understand the actions of proof such as "examining", "convincing", "precision", "recognition by everyone", "reaching a solution", "revealing" and "result". This result shows parallelism with Kaplan, Doruk and Özdemir (2015) and Güler and Dikici's (2013) findings with respect to the fact that students attribute the proof to verifying and explaining.

In order to understand the meaning attributed to making a mathematical proof by the students, a question like "what do you understand by making a proof?" is asked to the students. Findings show that students define making a mathematical proof as "verifying" and "showing the result of the operation". A part of the students attribute making a mathematical proof to "showing geometrically", "proving the theorem" and "reaching a solution". Though few in numbers, students explain the meaning of making a mathematical proof as "pile of operations", "developing a strategy", "convincing" and "being satisfied". Students' views shows parallelism with Baki's (2014) expressions. According to Baki (2014), mathematical proof is to prove the accuracy or inaccuracy of a mathematical expression. In other words, the assertion indicates that the pattern can be generalized from all the conditions. There are also high school students which pay attention to the systemization and discovering function of the proof although they are few in number. This suggests that the other functions of the proof are not paid

attention to by the students (Hanna and Barbeu, 2000; Hanna and Jahnke, 1999). Considering from this aspect, the students should be provided to discover the other functions of the proof on learning the mathematical information.

Proof is one of the five process standarts recommended by NCTM (2000). In this manner, considering the important and essential place proof in mathematics education, proof should take place at all levels of school mathematics curriculum. Also, students should train themselves in the way of improving their knowledge about the proof. The following suggestions can be made; methods of proving which are given in secondary education should be taught in details, students' self-confidence about prove should be provided with plenty of individual applications, importance of proof should be comprehended with real-life examples, research can be done with different scales about proof.

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Opinions Of Students On Practising Piano

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ABSTRACT
The objective of this study is to determine the opinions of students on practising piano who are studying in the Department of Music Education of Fine Arts in the Faculty of Education and taking compulsory piano courses. For this purpose, 42-person group consisting of the students in the Department of Music Education of Fine Arts in the Faculty of Education in 2014-2015 academic year was asked to write an essay titled "my opinions on practising piano". Written answers given were analysed by using qualitative research techniques. According to the results of research, the students stated that they feel under pressure as they have to practice piano regularly. They point out that as the piano examination program is at advance level, they have to practice hard and as they play continuously the piano, they have no sufficient time for studying other courses. When reviewed, the essays were different from each other depending on the student and the students stated that they got bored while practising piano. They need the support of teacher especially while analysing the piece and etude. Additionally, the students state that the more they like the melody of etudes or pieces, the more they want to practice.

INTRODUCTION

The piano is accepted as the most universal and the most basic instrument with regards to playing music, acquiring listening and chanting skills, understanding the music, creating music knowledge and forming a basis for other musical works by music educators (Buchanan, 1964). Musician needs to practice in order that the instrument can be played properly. Practising should be sustained for maintaining the development as well as for providing the development in playing the instrument. Practising piano includes all development studies such as analysing the piece, increasing and sustaining the performance. As stated by Ericsson et al., (1993), Sloboda et al., (1996); Hallam (1998), playing the piano is an action which contains the cognitive diversity consisting of auditory, visual and motor skills within itself. Individual tries to practise, repeat and carry out the performance in a coordinated manner throughout the years. These practices improve continuously the musical development of an individual. Jardaneh, 2007). Artist, educator or students can practice piano for different purposes according to their identities. Students practise piano individually and for making preparation in order to present generally in the course, examination or on the stage. Within this period, student should learn by practising or experience. In order to get this, student should actively experience playing. External source of motivation for a student who learns to play the piano is mostly the courses. The principle of practising piano requires the participation of student into all courses and daily systematic individual practising. Therefore, a certain practising time should be allocated and followed every day. Before practising, it is very important to plan wisely the practising time. Technical issues, practise, etudes and pieces and repeating the pieces practised before and sight-singing should be included in daily practising. (Çimen, 1994: 137). Şendurur (2001) mentions that a student should have mental, physical and spiritual abilities for an effective practising process. Individual practising process should be used effectively in order to gain skills required for playing an instrument and use efficiently these skills. This process requires attentiveness for practising principles, namely practising order and practising requirements. Çimen (1994) mentions that when the mind continues to function intensively during practising, more efficiency can be obtained with less physical effort (Çimen, 1994: 138). Çimen emphasizes that the most important element of learning is the fact that the mind focuses on practising. Piano playing skills, abilities and attitudes of students are directly associated with the readiness level in the entrance to the department of music education, motivation, piano playing conditions, time allocated for playing the piano, educators, piano courses goals, materials used in piano courses, the relationship between courses relating to the music field and having frequently the field of application of skills obtained in piano (Özen, 1998: 32). It is possible to evaluate the practising process and result as a whole. The attitudes of students related to practising piano can be an important determinant affecting the instrument performance. Thus, the opinions of students relating to practising piano are considered important.

THE STUDY

This research is a qualitative descriptive study made for determining the opinions and assessments of students related to practising piano who are studying in the program of music education in the Faculty of Education. This research consists of 42 students who are volunteers for attending the study and studying in the Department of Music Education in the Faculty of Education in Gaziosmanpaşa University in 2014-2015 academic year. 27 of these students are female, 15 of whom are male. The ages of students vary between 19 and 24. 20 of the students are at fourth grade, 5 of whom are at third grade, 11 of whom are at second grade and 8 of whom are at first grade. In order to determine the opinions of students studying in the Department of Music Education in the Faculty of Education in Gaziosmanpaşa University in 2014-2015 academic year, they were asked to write an essay titled "my

opinions on practising piano". It was stated that data were important for developing and editing the piano courses and this would not affect the assessment results of students in the end of semester when they were asked to write a detailed essay. Additionally, the students didn't state their names for allowing them to write freely their opinions. The analysis of data in the phenomenology researches is for revealing the experiences and meanings. In this analysis, similar data are gathered within the context of certain concepts and themes and edited in a manner that the reader can understand. The results are presented with a descriptive expression and the findings are explained and interpreted by allowing frequently and directly the citations. The written statements of students were analysed by way of the content analysis. The essay of each student was reviewed, the main themes were determined within the context of the research and creating common themes with other students was allowed. In this process, the essays of students were firstly numbered and gathered under common main themes. Common themes determined were analysed by two lecturers having qualitative studies except the research.

FINDINGS

All expressions of students participating into the research were analysed for finding common themes and examples were given by referring to the opinions stated.

Common themes were determined as;

1. Amount (quantity) and time allocated for practising piano
2. Function of Practising Piano
3. Feeling the need of Practising Piano
4. Motivation in Practising Piano
5. Obstacles for Practising Piano.
6.

1. Amount (quantity) and time allocated for practising piano

MS1 "Courses pass so intensively. If I had time, I would practise more. But the time is limited." WS7 "While I practising the piano, I continue to practise if I succeed to play the piece. If I can't, I don't want to practise. Whether I can succeed it or not depends on whether I like the piece or not. If I like it, I don't get bored and I practise hard" WS23 "While I'm practising the piano, I lose track of time…It gets dark before I know it" MS40 "As I get bored while practising the piano, I want it to end as immediate as possible. This time, I feel uneasy as I am not prepared" MS11"Practising piano is a waste of time for me, because I cannot find time for my instrument, practising…" MS41"I practise the piano enough to pass my class. I think that I should devote time to other courses…

The students stated that the more they like their task piece, the more they devote time to practising piano. Some students stated that they lose track of time while practising the piano as they like it, some students stated that they consider practising as a waste of time as they don't like or are interested in it. A few students stated that they have limited time due to intensive courses, so they practise little. According to Turgut(2006), being charmed by the job means that an individual focuses on job and his/her heart is in (as cited in Esen, 2011: 7).

It can be said that the more a student focuses on practising piano, the more he/she bears positive opinions for practising piano. Additionally, the time devoted to practising piano should be calculated by reaching the daily goal. It is a fact that both these important matters play a significant role for the success of student in practising piano. Another point is that the opinion that the piano is the basic instrument in the music teacher training program is defended due to the importance and the necessity that music teachers acquire the effective accompaniment skill. Accordingly, the accompaniment gained a more functional qualification for music teaching by gathering with background gained from courses such as piano, harmony-counterpoint-accompaniment and music theories above playing the piano very well (Sönmezöz, 2006: 8). Therefore, it is thought that making an effort for using this instrument in a functioning manner and using efficiently the time devoted to practising piano will be more reasonable instead of bearing any positive opinions for "Piano course" which is an important course in the program.

2. Function of Practising Piano

WS3 "I think that practising piano teaches me something. In a sense, it can affect both piano and other courses, because the course includes the subjects of harmony, audition, music history, music culture courses. While practising piano, I study the characteristics of piece by thinking that the teacher may ask"KÖ17 "While practising piano, I feel the improvement of my musical skill. I want to practise more." With reference to the statements, it can be said that practising piano teaches the students and develop their musical skills. Kıvrak (2003) stated that the piano is the sole instruments having the characteristic of effective instrument in major area courses by 80,7% for training music teachers. Additionally, the statements of Kasap (2004) on which the piano is accepted as the most universal and the most basic instrument with regards to playing music, acquiring listening and chanting skills, understanding the music, creating music knowledge and forming a basis for other musical works by music educators have the quality to support both Kıvrak and the students.

3. Feeling the need of Practising Piano

MS 34 "Practising piano is important for me. It is impossible to play the piano without practising" WS31 "...I learned that I should practise piano every day. When I go to my home town for two days, I forget the piece immediately…."

Information should be processed for providing the permanence of information obtained in piano courses. One of these ways is to repeat. The students stated that they should practise regularly for the permanence of information obtained. Ercan (2006:105) supports the opinions of students by stating that repeating adequately the phrases within the piece allows fingers to learn automatically this skill as playing the piano is a skill developed with right practise and repetition. Hallam (1997) has also a similar opinion. Hallam advises beginner music students of "regular repetition for providing the improvement of cognitive, auditory and technical skills" (as cited in Pitts and Davidson, 2000:46). Margot Varro (1929/1958) summarizes the piano practices as various and proper repetitions for obtaining a certain piano skills (Jørgensen, 2008:8, as cited in Kılınçer and Uygun, 2013: 210).

4. Motivation in Practising Piano

Some of the students expressed that they became successful when they put the experiences obtained from the courses taught by their teacher into practise in their own piano practise. In respect to this, a few examples of the opinions of students are given below: *MS13 "...Teacher is very important in instrument teaching. If I practise the piano, this is thanks to my teacher. I'm good with my teacher. I try to make what he says." WS27"Unless a teacher leads rightly a student, this student cannot become successful. It is not adequate to say to practise, I want him to tell how to practise" WS2"Practising piano is a must for me. I don't practise unless I have to pass this course." WS36 "I have difficulty in practise lonely. While I am practising, I continuously question myself whether I can do it right or not. While I'm trying to solve the piece, I want my teacher to be with me but I guess this is not possible*"

The students stated that the teacher has an active role in practising piano and practising and interaction should be performed with the teacher. In other words, the students stated that they would become successful in case of motivation. As the motivation is effective for making an individual eager for behaviour by energising him/her, it is one of the most important factors featuring the efficiency of learning-teaching process (Akbaba, 2006: 343). Extrinsic motivation includes the effects coming from external of an individual. As MS13, WS27 and WS36 needs a teacher, it can be said that they need extrinsic motivation.

5. Obstacles for Practising Piano

Most of the students express that while they are practising piano, they face with internal and external obstacles. Related statements are given below: *WS9 "...For example while practising my piano piece, someone who played it before comes and comment on this. I'm annoyed, I say that I play carelessly but I won't. In the end, I leave playing." WS29 "I feel bored while practising piano. I cannot stay there anymore. I want to go out immediately. I'm not the kind of this while playing the violin. Maybe as the piano is a big instrument, I overestimate it while playing. For this reason, I lose the place of musical notes…"WS37"I cannot focus attention while practising piano. My hearth is not in."*

The students stated that while they were practising piano, they are disturbed by other students commenting on them and could not focus attention and stay there anymore. As stated by Çimen (1994: 139), when the mind continues to function intensively during practising, it is possible to get more efficiency can be obtained with less physical effort (Çimen, 1994: 138). In case of contrary, more effort is required. This will physically tire the student out, which may reduce the desire for practising. Fail to focus can be caused by lack of desire. Determining the reason of related obstacle is required for providing solution.

WS20 "The pieces given us are very difficult. The teacher said me to practise regularly and in a planned manner. I should continuously practise for playing those pieces. This time, my other courses wait." WS25 "...Maybe I don't know how to practise. For this reason, I don't want to practise and I don't already practise" WS15 "I couldn't like the piano..I don't have difficulty in other courses, I prefer studying other courses than practising piano.

It is seen that the students facing with obstacles related to practising piano are doubtful about overcoming and solving the problem due to avoiding the problem or fail to solve the problem. For examples; WS25 stated that he don't trust himself as he finds himself incapable of solving the problem related to practising piano. WS15 told that he left as he didn't like the piece and he would prefer another field in which he wouldn't have difficulty WS20 stated that he had lack of time and he did not study other courses due to the difficulty of pieces. The time devote to practising piano should be planned and controlled deliberatively. Hallam (2001b) emphasizes that there are remarkable proofs on which the amount of time spent while practising plays a significant role in the level of specialisation obtained on a musical instrument. According to Maris (2000:118), there two approaches relating to planning the time of practising piano. The first one of these approaches is to decide what will be succeeded and how much time will be spent for obtaining the success goal. The second one is to decide how much time will be devoted to practising and to plan how to use this time (as cited in Kılınçer and Uygun, 2013: 219). It can be said that the students have difficulty both in planning and deciding.

RESULT

Practising piano may affect the quality of piano education of an individual. The studies in literature focused on performance and tried to find the reason of some problems at this point. Even though the problems are visible in the phase of result, they mostly occur at preliminary level. From this point of view, how the students practise the piano and what opinions and feelings they have while practising arouse curiosity. According to the findings obtained from this study, the students focused on five main themes relating to practising piano. These are defined as time and amount (quantity) devoted to practising piano, function (quality) of practising piano, feeling the need of practising piano, motivation in practising piano and obstacles for practising piano. The life of students has the quality to support the issues discussed today on education field. For example; the effect of teacher on student and the strategic plans to be made are the most important ones of current issues. Teacher is considered as the guide of student for the piano course. He/she should plan and lead the time well that they will practice together. Additionally, teaching the student how to practise by himself/herself became obligatory, because the efficiency of student in his/her practises will play a significant role for his development in the piano. For a student who knows for what he practises and can do his/her daily plans, it is likely that practising piano will become a pleasure.

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Parents' Views Regarding Foreign Language Teaching In Pre-School Institutions

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ABSTRACT

Gradually, learning a foreign language has become a necessity to capture the era in a changing world. In recent years, the importance attached to multilingualism in pre-school-age children has also raised the issue of teaching foreign languages. This issue is also becoming increasingly important in our country, Turkey. Present study was conducted to examine the parents' opinions of private kindergartens within the province of Istanbul according to some variables. The research was examined through a survey based on the opinions of 140 parents of children in pre-school education on foreign language education. The obtained data were analysed by using SPSS program and descriptive statistics. The parents attending the survey were asked what the most important reason they wanted their child to learn a foreign language in pre-school term, 60.7% expressed the opinion that learning a foreign language should start at a young age. As a result, it has been observed that the vast majority of the parents favour teaching foreign language in pre-school. It has been expected that learning a foreign language in pre-school education positively affects children's cognitive, lingual, and social development.

Key words: Pre-school institutions, Parents' views, Foreign Language Teaching, Games, Drama.

INTRODUCTION

Children have the power of creation, reflection, and learning more than one language. Pre-school children know the general structure of their mother tongue and they may evaluate the accuracy of their utterances. Children at this are able to grasp a new language. They can fully capture the accent, rhythms, and speech patterns. Adults are rarely able to do that. A two-year-old child can use two languages without mixing them into each other (Küçük, 2006).

It has been observed that a two-year old child whose native language is Hindu and also knows English stopped using his/her native language when the child went to the United States. According to psychologists, Mother tongue is not forgotten but taken out of consciousness. Second language becomes easier to children because of their environment. Therefore, the child preferred to use a second language but when s/he returned to their native country, s/he used his/her native language again (Küçük, 2006).

Teaching Second Language in the present day

Nowadays, the issue of learning a second language apart from the mother tongue has gained importance. It has become a factor that people need education in the work area and other social domains.

People, rapidly developing and trying to keep up with innovations, cannot be satisfied only with native language, but they also need to learn and acquire foreign languages. One of the reasons of this is the rapprochement among countries in social, economic, cultural, and technological fields. From the beginning of the last century till now, teaching foreign language is considered growingly important by societies in an incrementally shrinking world without borders (Canbulat and İşgören, 2005:124)

Foreign language schooling in Turkey

Today, Turkey has membership in many international organizations such as the United Nations and the Council of Europe, NATO, OECD etc. In these international organizations, several languages are being used as a common means of communication. For instance, the United Nations' official languages are Chinese, French, English, Russian, and Spanish. In this organization "French and English" as working languages, and "Spanish" as the working language of the General Assembly and the Economic and Social Council (UN, 1958) are in use. In the international organizations that are important for Turkey such as NATO, "English" is being used as the official language.

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Due to the rise of international relations as such, a necessity to learn other languages especially the Western languages that are accepted as official languages in international organizations occurs in Turkey and as a result of this teaching foreign languages is involved in school programs (Demirel, 1999:15)

Games in Foreign Language Teaching

Games activity especially colouring books can be used effectively in the second language learning process. Starting from kindergarten, all of the linguistic skills develop in children's play environment in the best way. During this period, a child may be enabled to prepare his/her textbook so that his/her participation in the process of learning and teaching is effectively achieved.

For children acquiring their native language is an extremely complex process. Children face absorbing and understanding a very complex symbolic string in this process. Therefore, the second string can only be realized from the acquisition of the first symbolic string, beginning at the age of four or five. In the first phase, one needs to take care of developing children's sensitivity regarding the second language and be careful about equipping them with communication tools that they can use in their daily activities by starting from the utterance speed and the volume.

Since we cannot use the child's non-acquired native language skills and writing activities at the age of four, we have to base language learning on speaking language. Taking into account that a child at this age has a limited capacity to concentrate on one particular task, it should not be forgotten that children need to interact with their friends.

Therefore, time prescribed for the teaching of a unit should not exceed 20-25 minutes. If one needs more time, it should be split into shorter units. Considering the sensitivity of children, making the foreseen activities variable and rich should be taken into account. In short, it is inevitable that education should be realised in a dynamic style in a rich gaming environment. In the classroom, kindergarten, and children's garden or at home as well as on holidays or in other places, most of children's daily activities are in the form of a game. This game stage is a stage that children try to emulate by observing adults Thus, the teaching of foreign languages at an early age and this emulation should be designed as a continuation of play activities (Kara, 2004).

Music in Foreign Language Teaching

According to Özkardeş (1988), one of the benefits of music is to expand children's vocabulary and accelerate language development through singing and listening. In the same structure, repetition of certain words helps the child recognize these words and enables them to make a sense of them. Again through singing, a child has a chance to pronounce accurately by continuous repetition of certain words (Özkardeş, 2005).

A researcher conducted a study on teaching foreign language through music with a group of age 5 children with the problem statement "Does education with music help embedding the information into the memory of children at this age?" Consequently, it is concluded that in pre-school, learning with music helps students to save data in their memory more easily and is more effective than the other rote classical teaching methods. Thus, as emphasized in the Multiple Intelligences Theory in pre-school, to develop a mental space, one can utilize music intelligence as well as other intelligence areas, and in language teaching, age appropriate musical activities can be organized. (Modiri, 2010).

Drama in Foreign Language Teaching

Communication is an element of a "natural" environment where the best development and training for foreign language are based on. Since the optimal natural environment for a child of this age is the "playing" environment that he creates and he himself is directly involved in, similar environments for gaming carry great value in terms of development and education. Educational drama contributes to the development of a child regarding communication and language skills with its "natural" environment similar to Önder, 2003: 98).

Drama technique is suitable for the use of new foreign language learners and students at all levels. Especially to motivate and encourage shy students at the elementary level, puppetry and improvisation can be used. Similarly, when teaching new words to students of initial level, mime technique may be used. In this way, children can guess the word that is taught without using the native language.(Çevik, 2006).

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Effects of Foreign Language on Cognitive Development

There are different opinions in society about the education of foreign languages at an early age. For example, speaking two languages divides the brain into two, or adversely affects the ability to think. Such opinions can be based on the considerations that bilingualism will create an undue burden on the brain and will create complexity in mind.

For Mc Laughlin (1984: 101), when a foreign language is obtained after the age of four, it will be difficult to integrate it into the structure of the brain because changes in the neural system cannot occur easily after that age.

Many researchers advocate that learning a foreign language at an early age has several advantages. For example, it has been suggested that bilingualism provides mental flexibility for a child and helps the formation of mental skills to detect, treat, and use the information.

Besides all these, In a study conducted on bilingual children, Bamford and Mizokawa (1990) found positive impact of problem-solving skills at an early age in foreign languages. In the light of some research, children learning a foreign language at an early age are proved to be better at abstract thinking skills by comparison with those who are not. This also affects cognitive skills such as concept development and evaluation in a positive way (Canbulat and İşgören, 2005).

Effects of Foreign Language on Language Development

Bleyhl (2000: 1-5), in his study on foreign languages in primary education, mentions empirical research of Bristol, and underlines the important thesis obtained in this study. Accordingly, when so many stories, fairy tales are read and told to a pre-school child, then the child's ability to understand what is told or comprehension skills by hearing improve that much and as a result it boosts up his success the success of the child in school.

How should it be interpreted when these data are adapted to language development? Linguistic consciousness develops in a child depending on the action of hearing the language intensively, which means it is aurally developed. Therefore, the factors such as the quality and quantity of language, and the language used in a variety of child-centred environments play important role in language development. Also, one must not forget that when the child notices that he/she can only express something with words, in short when they are forced or encouraged, they prefer speaking. The process of the formation of a foreign language is not very different from the process of L1 development. Use of a language (output) cannot occur without the accumulation of a particular language named "critical mass"; this case is valid for both native language and foreign language. In short, in order for the child to start using a particular language, specified language material needs to be stored in the brain beforehand Akdoğan, 2004).

Impacts of Foreign Language on Social Development

Undoubtedly, teaching foreign languages at an early age will primarily give children the opportunity to learn about different cultures. It will allow the child to recognize the value that what he/she perceives in his/her own culture also exists in others. It will also improve the capacity of the child to see analogies and differences between cultures and to respectfully approach different cultures (Canbulat and İşgören, 2005).

Role of Families in Foreign Language Teaching

One of the major requirements in early foreign language education is that the family should be included in language education. An effective training is only possible with the collaboration of school, family, and the environment. Because children can learn foreign languages in kindergarten, at home, and in a natural environment through game activities. Foreign language instruction given in the kindergarten will not be effective if it is not applied home. By giving children simple commands such as "Let 's go to the kitchen, let's play a game, tell me…" , foreign language education can be permanent. In addition, education dosage should be well adjusted. That is, if the child does not volunteer, s/he should not be compelled.

If language training is turned into a fun game for kids, it can grab their attention. For this reason, educators should make use of appropriate methods for children in their development period considering their interest areas. For example, babies love sounds, rhyme, and stories. While learning a foreign language; baby songs, puppets, and plush toys attract the babies' attention. They receive training along with their mothers. Under the name of family activities, some of the books and other visual materials in the 3-6 and 0-3 age groups are intended for parents and generally with the help of family, they are transferred to the child. If parents continue home schooling for early foreign language learning, success can be achieved (Kara, 2004).

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LITERATURE REVIEW

In İlterand Er (2007)'s study entitled "Teachers and parents' views on early foreign language teaching", no significant difference between the opinions of teachers and parents with regard to foreign language teaching in the early years has been found. Both groups support teaching of foreign languages at an early age and they both agreed that games, songs, and rhymes are needed to be utilized when teaching children foreign languages at this age.

When we have a look atAytar and Öğretir (2008)'s study named "Examination of mother, father and teacher views on language education in pre-school as per variables", we spot that teachers are in favour of pre-school foreign language teaching. Contrary to this common opinion, teaching foreign languages to children before they pick up their native language learning their native language is considered to have negative effects on children's personality and their social development.

In the study of Küçük (2006) named "Opinions of families and educators in pre-school foreign language education early childhood", it was found that educators and teachers find pre-school English education useful and necessary, and in their opinion, language education should start from pre-school and be continuous until the end of secondary education.

Anşin (2006) in his article entitled "Foreign language teaching for children", he is of the opinion that if the natural attitude of the child is observed in the native language acquiring process, foreign language education will be more effective and lasting. He studied on the institutional foreign language teaching, foreign language teaching in France and generally in Europe, and his studies revealed that the age factor, foreign language teaching methods and techniques implemented to teach children at the primary stage should be applied taking their cognitive, communicative and pedagogical features into consideration and pedagogical factors that foreign language teachers create in class.

The result of the research of Batdı (2012) named "Teachers' opinions on the use of educational games in language teaching" shows that instruction with educational games creates a fun learning atmosphere and positive attitudes towards language learning and they offer alternative activities for the development of the four language skills.

It is recommended that educational activities that have a great role in meaningful and lasting language learning should be particularly used in foreign language classes at the elementary level.

Akdogan (2004)'s study, "Early foreign language teaching in the light of new projects" examines foreign language education and training matters in early age with its international dimensions and focuses on the developments and studies in Turkey, and introduces two intensive foreign language training and teaching Project that are designed and carried out within this framework.

One of the important research studies was conducted by Sevinç and Sertkaya (2006), "Evaluation of the effects of foreign language education to notion development cognitive and skills in pre-school term". Looking at the results of these studies, it is clear that children studying in foreign languages schools get ahead of children studying in their mother tongue in terms of notion development and cognitive skills. When comparing children's performances in institutions implementing bilingual programs, it revealed significant results in terms of mainly contextual activities, notion development of child-centred language program, establishing meaningful similarities and differences among objects, problem solving and numeracy abilities on statistical levels.

In their article named "Bilingual / multilingual children's language acquisition process",Yazıcı and İlter (2008) stated that when research is analysed on more than one language acquisition during early childhood, bilingualism or multilingualism is a subject of sociology, psychology, pedagogy, anthropology, and linguistics. In this study, developmental processes of bilingualism in early childhood were examined in terms of linguistic skills.

When we look at Sevil's article (2003) entitled "Foreign language teaching: Principles in the early age" the following items are highlighted; 1. According to the theorists of foreign language teaching, early foreign language education aims to realize the interests of language and culture in children. 2. Foreign language education at an early age requires the establishment of new methods for the training of foreign language teachers. 3 Since playful activities do not require an effort on the basis of learning process, they provide a basis for foreign language teaching at an early age. 4. Projects such as Evlang that takes place in Lingua 1998, a European Union program, are put into practice. 5. Foreign language education at an early age is an essential element of today's understanding.

The result of study conducted by Od (2013) "Contribution of cartoons to listening comprehension and speaking skills in early childhood foreign language teaching" points out that foreign language teaching and learning to capture the era has become a necessity in a developing and changing world. In recent years, with the start of focusing on the importance of multilingualism, teaching foreign languages at an early age has become a crucial issue. In our country, required activities have begun to be carried out in this regard. Therefore, we can say that in some public schools and private schools, foreign language is being taught to pre-school students in the 5-6 age group. However, one must admit that there are problems with course materials in foreign language teaching

practice. For the solution of these problems, it has come to the conclusion that cartoons and audio-visual tools are useful for teaching.

When analyzing the study of Kocaman and Kocaman (2012) named "Age factor in foreign language education at pre-school level", it is stated that foreign language training should be given by a pre-school teacher certificated in English or by a teacher of English certificated in pre-school education. Still, the majority of the interviewees stated that foreign language training at the level of pre-school must be given by a native speaker for the sake of correct pronunciation.

Based on the theoretical framework and related research results of the research named “Parent views regarding foreign language teaching in pre-school educational institutions”, one can say that as a result of studies conducted in the field of foreign language teaching in pre-school institutions, children’s awareness of foreign language should be raised., parents should be aware of the programs implemented in the institution, samples of activities should be sent to the parents in order inform and guide them for a parallel education.

PROBLEM STATEMENT

The problem statement of this present research was “What are the views of parents on foreign language education in pre-school educational institutions?”

METHOD

In this section, model of the research, population and sampling, data collection tools, and statistical process to analyse the data take place.

Model of the Research

This research with its scientific nature is based on quantitative dimension. Firstly, literature has been searched regarding the topic of the research and in the light of information based on the literature; A “Parents' views on the teaching of foreign language in pre-school institutions” survey has been developed. The questionnaire was used to gather the views of parents of children who attended special education institutions in European and Asian sides of the Istanbul Province in 2013-2014 academic year.

Sampling of the Research

The population of the research consisted of 140 parents whose children are pre-school students.

Data Collection

The related literature has been reviewed to benefit from domestic and foreign sources to prepare the data collection tool. By analysing survey questions in similar studies, required question pool was prepared by the researcher. Questions taken from this pool, “The Survey of Parents' Views on the Teaching of Foreign Languages in Pre-school Institutions” formed the questionnaire as the data collection tool. Expert opinions were taken for the coherence of data collection tools regarding scope and clarity.

The survey has been implemented on parents whose children attend some private pre-school institutions in Istanbul Provincial National Education Directorate in 2013-2014 academic year. 140 parents participated in the survey. In order to gather information, in the form of selective survey, 27 items include7 personal information and 20 items are related to the subject.

STATISTICAL RESULTS

This part of the research presents demographic information of parents regarding the foreign language teaching in pre-school institutions, results of parents’ opinion in the foreign language teaching in pre-school educational institutions.

Demographic information of parents gender distribution

Table 1.Gender distribution of the parents participated in the survey

Gender	N	%
Female	103	73,6
Male	37	26,4
Total	140	100,0

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Table 2.Age distribution of the parents participated in the survey

Age	N	%
18-25	0	0
26-30	10	7,1
31-35	34	24,3
36-40	59	42,1
40 and over	37	26,4
Total	140	100,0

Table 3.Efficiency distribution of foreign language in selecting pre-school education

	N	%
Yes	130	92,9
No	10	7,1
Total	140	100,0

Table 4.Distribution of given activities joined by the children

	N	%
joins all of the events	135	96,4
Only joins foreign language activities	3	2,1
joins all activities except for foreign language	2	1,4
Total	140	100,0

Table5.Distribution of foreign language knowledge of the participating parents

	N	%
Yes	58	41,4
No	18	12,9
Missing	64	45,7
Total	140	100,0

Table 6. Distribution of participating parents' level of foreign language knowledge

	N	%
I know very well	80	57,1
I know well.	35	25,0
I know very little.	16	11,4
I do not know.	9	6,4
Total	140	100,0

Table 7. Distribution of problem types parents experienced due to insufficient knowledge of foreign language

	N	%
It prevented me from having the education that I want	32	22,9
It prevented me from raising standards of my life	37	26,4
It prevented me from understanding other cultures	32	22,9
There was no problem since I know a foreign language	28	20,0
Others	11	7,9
Total	140	100.0

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Table 8. Degree of foreign language knowledge of the spouse of the participating parent.

	N	%
S/he knows very well	45	32,1
S/he knows well.	43	30,7
S/he knows very little.	33	23,6
S/he does not know.	19	12,9
Total	140	100,0

Table 9. Parents' views regarding the necessity of foreign language education in pre-school

	N	%
Yes	133	95,0
No	7	5,0
Total	140	100.0

Table 10. Parents' views regarding how old the foreign language teaching should start according to parents participated in the survey

	N	%
0-2 years	32	22,9
3-4 years	94	67,1
5-6 years	8	5,7
7-8 years	2	1,4
9-10 years	1	0,7
11-12 years	3	2,1
13 years and over	0	0
Total	140	100,0

Table 11. Parents' views regarding which social developments of children are affected by starting the foreign language teaching in an early age

	N	%
Lingual development	11	7,9
Mental development	1	0,7
Social development	1	0,7
Lingual and social development	10	7,1
Lingual and cognitive development	14	10,0
Social and mental development	2	1,4
Lingual-mental-social development	101	72,1
Total	140	100.0

Table 12. Parents' views regarding what the most important reason is they want their child to learn foreign language in pre-school education

	N	%
I had difficulties for not knowing a language, therefore I want my children not to experience the same thing	74	52,9
Since I wanted to learn a language, but I couldn't	61	43,6
Since he/she can learn a foreign language as early as he/she started	4	2,9
Since it facilitates the future education life	0	0
To recognize that there are languages other than their own language	1	0,7
All	0	0
Total	140	100.0

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Table 13. Parents' views regarding what the most important reason is to learn foreign language in pre-school term

	N	%
Children learn better foreign language at an early age.	85	60,7
Lessons learned at this age are permanent.	23	16,4
Better learn to pronounce foreign words.	3	2,1
Facilitate future educational life.	29	20,7
There are no pre-school education benefits of learning a foreign language.	0	0
Total	140	100.0

Table14. Parents' views regarding to what extent the children are interested in foreign language in pre-school term

	N	%
Sings songs in the language he/she has learnt	54	38,6
Says the object name in the language that has been learning, e.g. says "elma" to apple	44	31,4
Listens carefully the foreign language speeches on TV or elsewhere	9	6,4
Repeats the words he/she has learnt.	19	13,6
Shows no interest in foreign language learning.	14	10,0
Total	140	100.0

Table 15. Parents' views regarding how to make the foreign language the child has been learning permanent

	N	%
I encourage him/her to repeat what he/she has learned	62	44,3
I provide programs like cartoons in foreign language for my child	15	10,7
I provide technology-supported programs.	6	4,3
I answer their questions	10	7,1
I apply all of the above	41	29,3
I do not do anything, I will do in elementary school	6	4,3
Total	140	100.0

Table 16. Parents' views regarding how the starting foreign language at an early age affects the mental and lingual development of the children

	N	%
Affects positively	134	95,7
Affects negatively	3	2,1
Does not affect	3	2,1
Total	140	100,0

Table 17.Responsive Distribution on the views of parents regarding the most important positive effect of starting foreign language at an early age and effects on the mental and lingual development of the children

	N	%
Cognitive and lingual improvement occur	103	73,6
Self-expression skills increase.	12	8,6
Self-confidence increases.	19	13,6
Currently do nothing about foreign languages.	4	2,9
It does not affect in the positive direction.	2	1,4
Total	140	100.0

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Table 18. Parents' views regarding the most important negative effect of starting foreign language at an early age and effects on the mental and lingual development of the children

	N	%
Foreign words cannot be pronounced since lingual development is not completed	13	9,3
Since native language education is not completed, foreign language education can be difficult and it can make him/her get away from school.	5	3,6
Ability to express themselves decreases.	4	2,9
It does not affect negatively.	118	84,3
Total	140	100.0

Table 19. Parents' views whether the foreign language education in pre-school institutions is adequate or not

	N	%
Yes	85	60,7
No	28	20,0
I have no idea	27	19,3
Total	140	100.0

Table 20.Responses regarding what parents would suggest for foreign language education in pre-school if they found it inadequate.

	N	%
Longer time of teaching	10	7,1
Including whole activities	10	7,1
Speaking in foreign language at school all the time	4	2,9
Teachers to be more concerned about this	3	2,1
I would like to inform about foreign language	9	6,4
Teaching through games and drama	19	13,6
I have no suggestions	22	15,7
Blank	63	45,0
Total	140	100.0

RESULTS AND DISCUSSIONS

When we look at the results of the research, out of 140 parents, 103 of them were female and 37 were male. 59 of the 140 parents participating in the survey are in 36-40 years age range. The gender distribution of children of parents surveyed 79 have boys and 61 have daughters. Out of 140 parents that are surveyed, 70 of them have 1 child, 60 of them have 2 children and 10 of them have 3 or more children. Regarding the educational status of the mothers who participated in the survey, 96 have a graduation certificate at the university level. Educational levels of the parents who participated in the survey, 73 have a graduation certificate at the university level. Participants stated that 28 parents doing freelance work, 22 parents are teachers, 20 parents are engineer and 16 parents are housewife.92.9 % of the parents said that foreign language is an effective factor that affects parents' choice of pre-school. Almost all of the parents (96.4%) reported that of pre-school children continued all the activities provided in educational institutions.97.9 % of the parents stated that they did not pay extra for the events given in the pre-school educational institutions.41.4 % of parents said they know a foreign language.57.1 % of the parents, said they know a foreign language at a good level. 26.4%of the parents stated that not knowing enough foreign language hindered the rise in their life, 22.9 % stated that it prevented them from getting the education they want for, 20.0 % stated that they experienced no problem. 72.9 % of parents' husbands/wives speak a foreign language. 32.1 % of parents' spouses speak a foreign language fluently. 95% of parents found teaching foreign language in pre-school institutions is required. 67.1 % of parents reported that the age to start teaching a foreign language should be 3-4 years. Some of the parents 52.9 % stated that since they do not know a foreign language, they experienced difficulties; in order not to make their children to experience same problems in the life, they marked it as the most important reason for pre-school foreign language education. Some of the parents ,60.7 %, who participated in the survey stated as the most important reason for foreign language in pre-school is that children learn foreign languages better at an early age. Some of the parents, 38.6%, underlined that the interest of children in learning foreign language in pre-school is shown by singing in the language that they learnt. 44.3% of parents stated that encourage their children to repeat what they have learned in foreign language to become permanent. 95.7% of

parents reported that starting an early foreign language teaching affects the child's mental and lingual development in a positive direction.73.6% of the parents stated that the most important reason of positive effect of early foreign language education on children's cognitive and lingual development is its improvement in mental and lingual development.9.3% % of the parents stated that the most important reason of negative effect of early foreign language education on children's cognitive and lingual development is that since language development is not complete, children cannot say foreign words and 84.3% stated that it affects in a negative way. 60.7% of the parents implemented that they have found foreign language education in pre-school institutions is adequate.13.6% of the parents suggested that in order foreign language in pre-school to be adequate, it should be given with fun and games within drama.

As a result, parents participated in the survey, think that foreign language teaching in pre-school educational institutions is essential and children learn foreign language at an early age and what they learn at this age is permanent.

It has been observed that the majority of parents are in favour of foreign language in pre-school. It is expected that learning a foreign language in pre-school education will positively affect children's cognitive, lingual and their social development. This idea is determined in light of literature examinations and this applied research.

SUGGESTIONS

With foreign language teaching in pre-school children awareness on this issue can be raised. Children can be aware that there are other languages and cultures outside of their native language. Mandatory or selective courses that include required information, skills, methods, techniques for foreign language teaching to teacher candidates in pre-school education programs can be given. Education Faculty of Foreign Languages Education Department can provide the necessary training to for their own students to educate children of pre-school. Information meeting and seminars about the foreign language teaching for pre-school children to pre-school teachers can be arranged. Language training programs can be rearranged as to include foreign language teaching for children in pre-school, according to the common European framework program. Besides all these, when the parents were asked about their suggestions when they found foreign language education inadequate in the pre-school 63 of them (45%) did not answer the question which indicates that parents are not qualified enough to evaluate the education and make necessary contributions. Therefore, parents should be informed about the content of foreign language education at pre-school level.

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Photography As A Visual Communication Tool

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ABSTRACT
The number of mass communication tools is increasing day by day worldwide. The most important common tool for effective use of publications via mass communication tools. There are many types as well as many different techniques of photography. Therefore different shots are taken on different times from the same frame. This variety also reflects in the communicative language. Since photography is a communication tool, this research examines photography as the basis of communication and a visual communication tool. It is thought that this research will make a contribution to the literature of this field.

INTRODUCTION

Today, with the rapidly progressing technology, photography became the most frequently used tool therefore being one of the most effective nonverbal communication tools and having extensive usage. Communication is divided into three categories namely verbal, nonverbal and written. Verbal communication relates to living creatures, nonverbal communication relates to actions and behaviors, and the basis of communication relates to information and transfer of information (Guiraud, 1990).

At the bottom of communication lies human. Effectively using all types of communication, people both feel external communications with their senses and perceive different communications simultaneously. People also communicate with others using all of their sense organs. When being transferred, the messages are given certain meanings. The senses that are utilized during this process have a priority order. Tactile sense examines shapes in detail based on contact. Screening through tactile sense on three dimensional space is more difficult compared to that can be easily done through eyes by a single examination. Another process that can be easily achieved through eyesight is to obtain visual images of near or far objects via optical projection. To utilize our auditory sense through ears is easier, because we are able to easily and simultaneously hear and discriminate loud or soft, or high-pitched or sharp sounds (Arnheim, 2007).

Even if all sense organs are utilized in communication, the means used for initial perception of the surrounding objects is seeing. When light reflects onto objects, an image is created within the eyeball through inverted reflection on the retina as a result of the known physical structure of the eye. Seeing is a result of the transmission of nerve signals to the brain following the reflection of light onto objects. However, explanation of the meanings of seen things may be different in different individuals. The impression left by communication on individuals may be at different frequencies depending on the cultures and social structures of them (Özcan, 2007).

Given the diversity of communication, the meanings of visual expressions should be plotted according to certain meaning codes. Effective use of language is the basis of communication. Individuals utilize language as well as visual expression possibilities during their socialization processes. To give a meaning to something, we evaluate things that we know as well as those we do not know with respect to meaning.

Visual elements are types of expression that have a function with respect to what it is meant to show as well as what it actually shows with the images used (Özcan, 2007). Visual elements may be signs other than natural language. Signs facilitate understanding. The trilogy of signified-signifier-sign other than the linguistic signs play an effective role in understanding. Therefore, regardless of the classification, the sign produces a certain communication objective. This gains a meaning within a certain system. Signs of communities are produced for the purposes of visual communication. Icons, texts and other types of signs, that are all communication tools, are important with respect to their relationships with each other, and with respect to explaining the meanings of the relationships between the denotative and connotative meanings of the signs used and the various sign types (Özcan, 2007).

The essential difference of communication using symbols from text is that it is easily learned and its meaning is rapidly explained. Communication using symbols helps gaining meaning and perception worldwide. People from different languages, religions and cultures may use the same symbols. Many people from different languages and cultures use the same signs at public areas such as airports or hospitals.
Communication is one of the different sharing platforms used worldwide, and there are visual, auditory and behavior-based communication types. People who laid the foundations of communication produced permanent symbols to express their wishes, desires and feelings or share their successes. These begin with symbolic forms

and continue with letter strings. All these works are called visual communication tools. Visual communication covers our entire lives through visual materials. Photography is one of the most important visual communication tools.

Photography as a visual communication tool

Photographs, as a result of their nature, appear on many platforms. A photograph is a slice of our life and an image selected from the environment we live in. Photographs appear on many media. We see photographs on many mass communication tools such as magazines, newspapers, books, banners, billboards and TV. There are many types of photographs in the fields of advertisement, news and art. Besides having many types, a photograph has a theme, message and target audience although the reason and objective of publishing are different for each photograph. Regardless of their subjects, photographs are important in that they underlie visual communication. The characteristics of the target audience are also important in determination of the message the photograph will give. The creator of a photograph expects the viewers to examine it to robustly establish the communication chains. In our surrounding environment in which there are too much visual stimuli, a photographer strives to arouse curiosity and interest in the viewer. Photographs should arouse a feeling in the audience. Besides technical infrastructure, knowledge, skills and composition elements are also important in the construction of a photograph. The visual elements constituting the language of the photograph may find a correct way of expression by making a combination with the design elements. We can list and review the essential design elements as line, form, texture, color, hue, repeat, motion, perspective, light and shadow, and the design principles as rhythm, harmony, contrast, balance and integrity. The photographer is very important in the creation of a photograph as a visual communication element. A photographer is also a good observer. A photographer sees well and shows well. He/she sees many details in the surrounding environment and reflects them in the photographs (Kafalı, 2003).

Photographers are known as history collectors. From the moment they capture a view, that view becomes a trace of the past. Every shot and every record is a melancholic object (Tekin, 2002). Another reason that photographs have a communicative aspect is the evaluation of the qualifications that constitute the general structure of them. Since they are also documents, photographs also have a documentary aspect. When a theme is documented through a photograph, it also becomes a universal document (Kaygun, 2003). When examining the structural characteristics of a photograph, it is helpful to look also at the variations of photographic images.

1. Abstract View: to capture forms consisting of light through subjecting the emulsion to light with color or black-and-white photograms.
2. Objective View: creating documentary photographs with the images of objects
3. Rapid View: to capture images of moving objects by using high shutter speed
4. Slow View: to capture the motion events of moving objects during a certain time using low shutter speed
5. Enhanced View: to shot invisible images using micro-objectives or filters with certain properties, or to shot objects in misty or dark environments using infrared light
6. Through View: capture images using x-ray, infrared
7. Simultaneous View (Different things): capturing overlapped views using automated photomontage
8. Distorted View: capturing views in a dark chamber by making physical or chemical interventions to the negative film or to the paper, using prisms and mirrors during shooting (Karoğlu, 2009).

One of the essential aspects of photography is its artistic aspect while the other is its technical aspect. Combination of these two different aspects constitute photography and the origin of communication. It is affected by many variables at the moment the shot is taken when the shutter is pressed. The photographer should know and be aware of the effects on the photograph and the motions of the viewer. The feature of photographs as a piece of art originates from the fact that they follow the photographed object, the act of photographing, and even the viewer (Karaca, 2011).

Photographic image alone does not have a time. Photographs can be taken from the same frame on different times to create different effects. Photographs refer only to the moment they are taken. To give the photograph a motion, one must have an idea about the event occurred before and after the shot was taken. Therefore the meaning that gives a motion to the still image with the photograph is the interaction it creates with the viewer. A photographer takes a slice of developing and changing time. This slice obscures the meaning of the image. However, it will gain a meaning in life if it is associated with a certain theme and the relationships and meanings contained within it are addressed separately. A photographer is the person who takes his/her theme during the most appropriate timeframe by making the right observations. For artistic photography, the photographer works through, before and after taking the shot, compositions that will create an aesthetic expression depending on the theme. A qualified photograph is universal. Therefore, the shot taken, as a visual communication tool, gives the most accurate

message to a target audience within a theme. The most important feature of photographs differentiating them from the other communication tools is that they have a universal language (Derman, 2009).

CONCLUSION

Transmission of individual and social information and emotions underlies communication. Mass communication tools are used to complete communication processes. Although communication is thought as a written and verbal concept, visual communication tools are also a part of communication. This research discusses the qualities and quantities of photography as a communication and visual communication tool. In a technological view, photography continuously progresses and therefore appears in many channels. Black-and-white photography and dark chamber, color photography and techniques gave new meanings to traditional photography. Besides being thematic, photographs also have the characteristics of documents. Moreover, a camera is an important tool when we want to seize or stop the moment. Today, in addition to providing multiple advantages, photography also allows editing and control at preview stage. Therefore photography, as a visual communication tool, is important both as a document and an artistic object. Being used as a language worldwide also gives an universal structure to photography.

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Plantar Pressure Distribution Shift During Adolescence In Soccer Players

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Background: Elite football players spend hours in specialized boots designed for this sport. Fast acceleration, frequent direction change and frequent ball contact are specific for players' locomotion.

Objective: To determine whether specific movements influence plantar pressure distribution in elite football players.

Methods: Forty-one male soccer players of three age categories (11 yrs, 16 yrs, and 21 yrs) were measured using dynamic plantography.

Result: There was a significant difference between plantar pressure distribution of 11 yrs old and 16 yrs old players.

Conclusions: The results show that significant changes in the footballer's feet take place especially between eleven and sixteen years of age. These changes may be caused mainly due to ontogenetic development. As a possible impact of sport specialization on the feet of athlete, we admit two changes that were observed in our study. The first one is transfer of athlete's weight towards the front of the foot and the second one is an intensive use of outer part of the feet, both observed amongst the older players.

Keywords: Plantar pressure, Football, Adolescence, Foot

INTRODUCTION

Football is an acyclic sport full of diverse motion range. It is believed that during the match each football player makes nearly thousand different moves (Kirkendall, 2013). Changing of high intensity sprint sections with moments of low intensity walk or trot sections is also typical for football. Elite football players cover a distance of up to 11 kilometres during a single match; approximately 25-27% is covered by walking, 37-45% by a light run, 6-8% by moving backwards, 6-11% by a quick run or sprint and the remaining 20% is covered by movements during the ball possession. Sprint sections usually have a length of about 15 meters and are repeated approximately every 90 seconds of the game. In total, sprint sections amount is approximately 1 km of the distance covered by a player during a football match (Grasgruber & Cacek, 2008).

Each player enjoys ball contact approximately 70 – 90 times a match which makes only 1,5 – 4 minutes of the game. Therefore, locomotion without the ball control prevails [3]. Energy is obtained variously depending on the actual intensity of a game. Aerobic energy production (oxidation of glucose and lipolysis) provides most of the energy needed in a football match (Grasgruber & Cacek, 2008). Frequent and unpredictable changes occur in the motion of players during the game; therefore high level of coordination skills is also required. One of the most important physical preconditions for a successful football player is his agility, the ability to make immediate changes in direction of body movement. Another very important precondition is the capacity of energetic reserves (Kirkendall, 2013); (Grasgruber & Cacek, 2008).

While the upper sole and midsole of the football boot are made of light-weight, flexible materials, the outsole is usually very hard because it faces great wear during the boot usage. Another feature of the outsole is its flatness, with spikes being placed under the toe part and under the heel part of the boot. There are usually no spikes in the middle part of the outsole. Therefore there is usually inadequate support of the foot and of the lateral foot arch in this part of the boot. Specialized insoles have been invented to minimise this handicap. They serve only as a partial compensation though (Stubblefield, 2015).
Dynamic plantography scans surface pressure distribution of plantarum of loaded foot. This diagnostic method uses pressure measuring insoles or platforms and is used to determine loading during the actual stance phase of

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gait. Parameters such as the length and the width changes of the foot, angle of gait, high pressure points and many other are recorded and quantified by the systems. (Kaller, Bolecek, Kratochvil,Vorlickova, 2013); (Graf, 1993).

Purpose of current study is to determine how specific movements of elite football players influence plantar pressure distribution in different age categories.

METHODS

Subjects

Forty-one soccer players took part in the study. The subjects were selected based on several criterions. The first criterion was that all the players were players of the same club, a long-term participant of the first Czech league Synot Liga. Next criterion was age difference between the three age categories measured – we measured category of 11 year old (sixteen subjects), 16 year old (fifteen subjects) and 21 year old (ten subjects) players of the same club, therefore all of them should be exposed to relatively same training conditions.

Procedure

Our study was conducted using the emed electronic system which belongs to the family of novel pedography measurement platforms (Novel.de 2015. Emed, [On-line]. http://novel.de/novelcontent/emed, accessed March 9, 2015). The emed platform is a capacitive sensor construction. It is easy to use because it is stationary and flat. On the other hand, it takes time to the patient to familiarize with the platform in order to ensure natural gait. The main limitations of this system are space, indoor measurement and patient's (in)ability to make valid contact with the platform(Razak, Zayegh, Begg & Wahab, 2012).

The platform was always used on a flat surface. To secure maximum reliability of the results, a method of third step was used and each foot was measured five times by the platform. The result of dynamic plantography is so called "foot scan" representing plantar pressure distribution during the walk. All five attempts for each foot of each player were summarized into one average attempt for each foot of each player. The average foot scan was then divided into three parts – M1 (heel part of the foot), M2 (middle part of the foot) and M3 (metatarsal and toe part of the foot). When analysing these parts we concentrated on following information: contact time of each part with the platform, maximum force exerted by each part of the foot, peak pressure exerted by each part of the foot and surface ratio of the three parts during the walk.

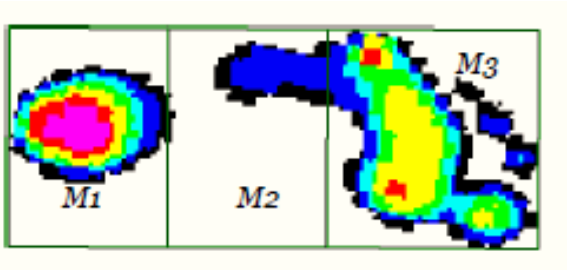

Figure 1: Foot scan divided into three parts (M1, M2, M3).

STATISTICAL ANALYSIS

A one way ANOVA was used to assess the statistical significance of change of each variable among the three age groups. To determine the exact location of differences by statistical significance a post-hoc Tukey HSD test was conducted. The level of significance was set to 0.05. All statistical analyses were conducted using Statistica.12 software.

RESULTS

Means and standard deviations of all variables are shown in Table 1. Results of the analysis are shown in Table 2.

Contact time

The lowest average contact time with the platform was measured in the youngest age category (11yrs). This can be due to small foot and therefore small contact area compared to the other categories. The metatarsal and toe part of the foot (M3) stays in contact with the platform for the longest time. Significant differences between the time ratios of M1, M2 and M3 parts of the foot were not noticed among the three categories.

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Maximal force
The maximal force of the M3 part is rising both in relative and in absolute values with the age of the subjects which can show transfer of the body weight towards the front of the feet. The M3 part is used more intensively by the older players, probably due to the sport specific movement – frequent steps provide frequent touches of the ball and therefore ideal ball control.

Peak pressure
Similarly to the maximal force also peak pressures of the footballers' feet follow noticeable tendencies during the adolescence. Eleven year old players exhibit peak pressures mainly in the M1 part whereas in sixteen and twenty-one year old players the peak pressures were detected predominantly in the M3 part. The shift of peak pressures in direction from the heal towards the front of the food can be easily spotted in figure 2 where we can see a typical plantogram for each age category.

% contact area
Ratios of the contact areas of the three parts investigated in our study (M1, M2 and M3) stay approximately the same with the increasing age of the studied subjects. This fact is common for both feet.

Table 1: Means and SD of contact time, maximal force, maximal pressure and % of contact area of each part of the foot scan, left foot.

	Foot scan part	11 yrs		16 yrs		21yrs	
		Mean	SD	Mean	SD	Mean	SD
Contact time	M1	3,89	0,73	4,49	0,74	4,43	0,57
	M2	3,95	1,24	4,98	0,74	4,97	0,49
	M3	5,82	0,84	6,64	0,58	6,62	0,52
Maximal force	M1	310,95	50,17	490,54	92,45	479,30	61,50
	M2	49,26	42,91	112,25	59,08	120,29	65,06
	M3	398,96	58,53	721,18	80,35	760,21	84,83
Maximal pressure	M1	324,06	76,95	363,67	79,88	308,50	61,38
	M2	59,38	26,20	104,00	46,72	110,50	34,27
	M3	275,31	48,22	471,67	138,42	430,00	130,60
% of contact area	M1	29,18	2,55	28,07	1,75	28,40	2,01
	M2	15,02	6,96	18,87	3,54	18,30	4,90
	M3	55,80	5,03	53,07	3,39	53,30	4,47

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Table 2: Means and SD of contact time, maximal force, maximal pressure and % of contact area of each part of the foot scan, right foot.

	Foot scan part	11 yrs		16 yrs		21yrs	
		Mean	SD	Mean	SD	Mean	SD
Contact time	M1	3,87	0,59	4,40	0,76	4,19	0,66
	M2	4,05	0,87	5,08	0,69	5,07	0,30
	M3	5,76	0,63	6,84	0,66	6,67	0,54
Maximal force	M1	316,22	40,09	466,73	99,52	456,42	50,86
	M2	63,44	48,20	112,32	57,43	130,70	76,28
	M3	407,02	53,98	735,06	82,76	752,85	70,74
Maximal pressure	M1	321,88	55,16	346,33	101,13	294,50	52,62
	M2	71,25	32,53	103,33	41,82	116,50	41,23
	M3	275,00	45,24	451,00	123,91	465,00	136,42
% of contact area	M1	28,50	2,16	28,13	1,92	27,70	2,00
	M2	17,06	6,82	19,13	3,74	19,50	5,38
	M3	54,44	5,20	52,73	3,53	52,80	4,42

Table 3: Results of the statistical analysis.

	Variable	Foot scan part			
			p 11-16*	**p 16-21***	**p 11-21***
Left foot	Contact time	M1	0,06	0,97	0,16
		M2	0,01	0,99	0,03
		M3	0,01	0,99	0,02
Right foot	Contact time	M1	0,08	0,73	0,45
		M2	0,00	0,99	0,00
		M3	0,00	0,77	0,00
Left foot	Maximal force	M1	0,00	0,92	0,00
		M2	0,01	0,93	0,01
		M3	0,00	0,41	0,00
Right foot	Maximal force	M1	0,00	0,93	0,00
		M2	0,07	0,73	0,02
		M3	0,00	0,81	0,00
Left foot	Maximal pressure	M1	0,31	0,18	0,86
		M2	0,01	0,90	0,00
		M3	0,00	0,62	0,00
Right foot	Maximal pressure	M1	0,64	0,22	0,64
		M2	0,06	0,68	0,02
		M3	0,00	0,94	0,00
Left foot	% of contact area	M1	0,33	0,93	0,65
		M2	0,13	0,97	0,30
		M3	0,20	0,99	0,34
Right foot	% of contact area	M1	0,87	0,86	0,60
		M2	0,55	0,99	0,52
		M3	0,54	0,99	0,64

* p 11-16 (differences between the 11 and 16 year old group), p 16 – 21 (differences between the 16 and 21 year old group), p 11 – 21 (differences between the 11 and 21 year old group).

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DISCUSION

Results of our research indicate that the pressure distribution changes are registered especially between categories of 11 and 16 year old players.

Ontogenetic development of the players might be the reason for these changes rather than sport-specific training. Between 11 and 16 years of age there is a rapid physical growth of players which also increases feet surface area and body weight and therefore causes an increase in values measured by the platform.

Transformation of plantar pressure distribution among the selected parts of the foot (M1, M2, and M3) might be understood as a consequence of sport specialization. In particular, sixteen and twenty-one year old players use the M2 (middle part of the foot) and M3 (metatarsal and toe part) parts considerably more than eleven year old players during the walk. This shift can result from specific sport demands while dribbling the ball, when players use toe part and instep dominantly to control the ball. Weight transfer towards the front (M3 part) of the foot allows frequent contact with the ball and therefore maximum ball control.

Frequent wearing of football boots is probably contributing to significant shift of plantar pressure distribution from M1 to M3 part of the foot in sixteen and even more significantly in twenty-one year old players, when compared to plantar pressure distribution of eleven-year old subjects. In order to provide better ball sensation along the instep, typical football boot cut is narrow. Additionally, for a greater sensory input, footballers usually buy football boots a size smaller than their other footwear is. Smaller surface of football boots compared to trainers of professional football players has been associated with increased plantar pressure and forces in the football boot. (Santos, Carline, Flynn, Pitman, Feeney, Patterson & Westland, 2001).

In contrast to previous studies (Jankovič, llič, & Durič, 2014); (Đurić, Ilić, & Nešić, 2013); (Grabara, 2008); (Klata,1997) in current study no foot deformities were observed. The study of Janković et al. (Janković, llič, & Durič, 2014). Suggests that over 76 % of 30 participants of a football school aged 11 to 13 have a certain degree of fallen arches. Another study (Đurić, Ilić, & Nešić, 2013). indicates that suspended arch of the foot is the most frequent postural deformity in both sexes of 7-11 year old handball players. Study carried on by Grabara (Grabara, 2008). Resulted in the fact that hallux valgus, varus deformity of the small toe and depressed longitudinal and transverse arches of feet were more common in footballers than in non-footballers. This deformities were observed especially at the subjects of with the longest training experience. Klata (Klata,1997) discovered similar deformities by examining 17-18 year old football players. The study observed depression of the longitudinal vaulting of mainly right feet based on KY index (20% of subjects) and transverse depression. Answers of the questionnaire then showed that majority of the footballers were right-handed (92%) and right-footed (85%) as well. Therefore there could be some assumptions that the dominant right leg is much more burdened during trainings and games than the supporting left leg. Unlike Klata (Klata,1997) we did not detect any significant signs of laterality. No differences were observed between right and left foot pressure distribution in either of the categories.

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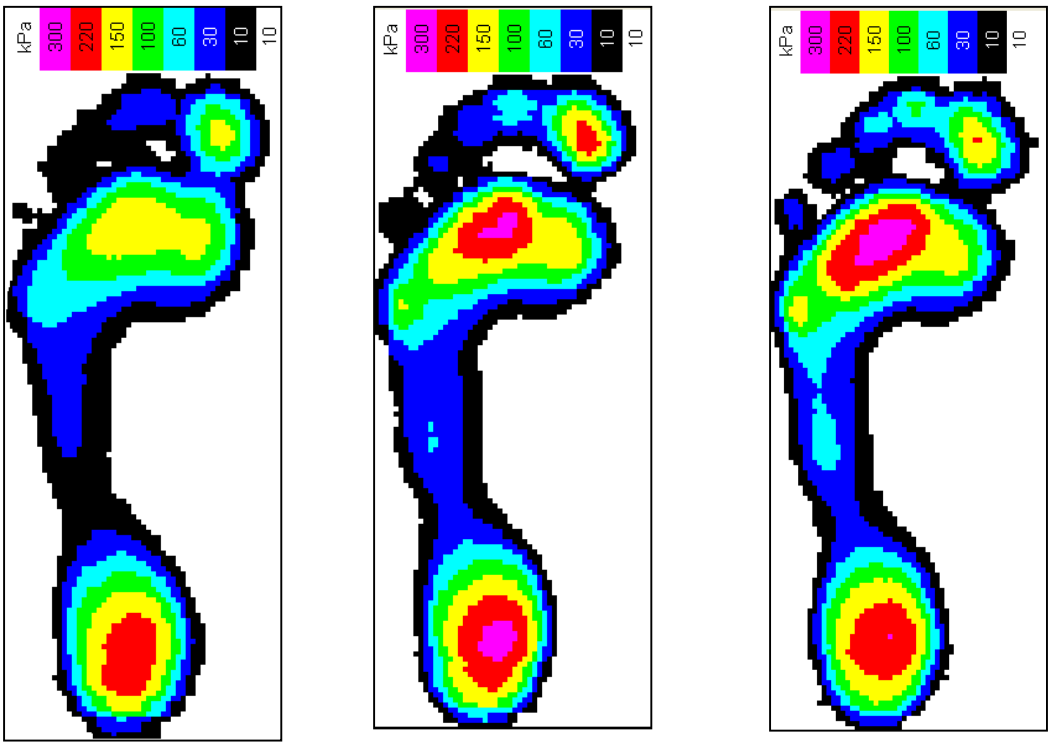

Figure 2: Plantar pressure distribution in 11 year old, 16 year old and 21 year old football players.

CONCLUSION

The results of this research show that significant changes in the footballer's feet take place especially between eleven and sixteen years of age. These changes may be caused mainly due to ontogenetic development. As a possible impact of sport specialization on the feet of athlete, we admit two changes. The first one is transfer of athlete's weight towards the front of the foot and the second one is an intensive use of outer part of the feet, both observed amongst the older players. To confirm our assumptions there is a need for further studies.

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Problems Of Teaching The Official Language In The Environment Of Minorities

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ABSTRACT
The influence of majority environment on teaching the official (the so called state) language represents several communication barriers for minorities within language education. The solution may be choosing foreign language learning strategies with emphasis on mother tongue and communication learning through foreign language teaching methods. Such an approach of second language education prefers working with texts of different kinds and thematic focus, related to narrowed language skills confronted with minority (not mother tongue) languages.

INTRODUCTION

Globalization and integration processes cause that people – not only within the Slovak republic - are interested in the Slovak language. It is indicated also by growing research tendencies in applied linguistics that deals with Slovak as a foreign language. Methods how to acquire Slovak effectively are under examination of many applied linguistics scholars and methodologists of the Slovak language. Emphasis is put on learner´s individuality and diversity of types of learners (memory, analytical, visual, auditory or impulsive or reflexive types and so on) regarding effectiveness of an acquired target language. Activities that are supposed to develop basic communicative skills and an overall approach to teaching the target language of minorities within the majority environment are adapted and modified. New, more modern and innovative approaches that respect learners´ individual styles are searched for.

INNOVATIVE APPROACHES IN THE CONTEXT OF UNDERGRADUATE LANGUAGE EDUCATION OF TEACHER TRAINEES IN MINORITY ENVIRONMENT

The use of innovative techniques brings a number of positive reviews by methodologists. Many of them agree with a view that when teacher trainees (i. e. future teachers) know qualities of innovative techniques and methods and moreover they are identified with them, in their teaching practice they will prefer them themselves and therefore they will naturally implement them into their lesson plans. Qualified teachers who use modern methods are able to eliminate language barriers of their students who belong to minorities [...] (Píšová, 2013, p. 4, source: http://www.jazyk-literatura-komunikace.cz/index.php/2-2013/category/23-clanky). Here we can see a multiple effect of implementing innovative methods into mother tongue teaching – already in undergraduate tertiary training. The quality of undergraduate education affects also the very quality of education and society. (Sirotová, p 120). Another positive phenomenon of implementing innovative approaches already within tertiary education is recognition of students´ creativity capacities, their abilities and possibilities to use them appropriately in teaching and also in their practical lives. When entering and doing tasks within innovative methods, students learn *the process of preparing/creating a communicatively focused lesson*; a *course of innovative methods in practice* and new *interactive approach towards mediating information* in the educational process. Innovative methods offer wide spectrum of possibilities how to innovate and modify learning/teaching processes in order to fulfil the educational goal that has been set. In the current school conditions we may work with cooperative methods, problem solving activities, project teaching, drama techniques, mind maps, reading with comprehension techniques, creative writing, methods of brainstorming, questionstorming, snowballing, and various intellectual and didactic games. Creative writing is significant for its integrating of artistic and journalistic texts into the educational process in a more attractive manner. It enables students to *understand works of art and critical texts better through discovery methods* and stimulate interest in writing. Top attributes of creative writing are: *free access to texts, creative atmosphere, teacher-student partnership in the process of communicative education. Tasks aimed at word plays, creation of original phrases, poems, short stories* that may be combined with *art, movement, music and other activities* could be taken as a source of inspiration. Creative writing is designed for groups of various size and also for individual studies.

The aim of undergraduate teacher training of the Slovak language is to stimulate interest of future mother tongue teachers in some of the innovative methods that contribute to communicative and creative teaching of the Slovak language and Slovak literature. Textbooks may help as they serve as a tool to improve university training of future teachers of the Slovak language and literature in primary and secondary schools with the language of instruction of minorities. Those textbooks are written by J. Píšová (2015), K. Hincová (2014, 2015), E. Tibenská (2014, 2015), P. Gregorík (2015), Z. Kumorová (2015 a, 2015 b), collective of the authors: E. Tkáčiková, M. Konečný, M. Kamenčík (2015).

Innovative trends of education have penetrated tertiary education with a primary aim: to deepen - with the use of constructive and creative way – and consequently to “materialise” knowledge of linguistic and literary education.

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As accompaniment in teacher training, a didactic moment is applied. It means that if innovative trends are implemented with a didactic aim already in undergraduate tertiary education, the result in linguistic and literary education in all types of schools is not accidental and average but targeted and effective.
When teaching minority language, motivation takes place right from the beginning. Through motivation students are activated and start discussion, they can do create tasks and think critically. At the beginning of targeted motivation within education, we may also face negative or unusual reactions of students – *surprise*, *dislike*, *misunderstanding*. Surprise – because teachers make them think and work actively. The teacher expects that the knowledge that students have gained until now is used in interdisciplinary relations in a flexible and creative way. The opposite is true and the information gained during their previous studies in other subjects/disciplines is usually not used when solving activating tasks. There may be (but also does not need to be at all) a change – after "showing directions" and a long-time motivating process through activating methods. According to Kumorová (2015), through didactic innovative activities, students:

- implement syllabus of a subject into tasks,
- answer problematic questions on their own,
- when looking for solutions, do not forget to analyse (problem within a subject),
- accept attitudes and arguments from a common life as well as from other scientific areas.

This is how general issues - except for linguistic matters - are to be solved: in open communication, students involve such sources that present a broader sense of a linguistic topic; they may cooperate as a team of scientists who brainstorm their ideas and work with them creatively.
The role of the school is to mediate knowledge to their students, however, not through the teacher´s knowledge and acquaintance but through learners´ own acquaintance. The traditional view of school has already been outdated and a new social situation requires a new approach to learning. Constructivism gains ground – the student himself constructs his own knowledge. The theory and practise of constructivism make students face problems that need to be solved and those tasks are created in such a way so as to be adequate to syllabus of a study discipline and also with regards to deliberate development of students´ cognitive operations (Hincová – Húsková, 2001, p. 12). The role of the teacher has been changed (in comparison to a traditional view of teaching); a new role provides his students with space to be able to gain knowledge and solve problems on their own. Tasks and exercises in students´ textbooks and exercise-books should be adapted to this situation; however, it is not a condition. The most important aspect is the teacher´s approach and the result of teaching should be knowledge gained by students´ own activity and understanding. Constructivism is based on *experience*, *perception*, *cognition*, *behaviour*, *inner experiencing of an activity* that lead to sustainable knowledge/acquaintance that students understand and use further in practice. It is also related to a pragmatic point of view on learning – as learning for life and students themselves can formulate results or solutions and plan practical steps to use gained knowledge. Activating methods help make the process easier and more effective but require maximum of teacher´s enthusiasm. The teacher – under pressure of new lesson planning -
often gets back to a traditional way of teaching: *mediating stable information*. Active learning requires much time before the teacher enters a classroom; planning requires creative ideas that must be directed to constructive tasks and exercises. The teacher should also predict reactions of his students – some may show enthusiasm, others may feel disgust. Speaking about activating lessons, a certain level of balance between communicative (activating and inspiring) approach and theoretical (information and conceptual) frame of activating activities should be present. After an activity, summary of the process (of the activity) and its results should follow. This is to get students understand pragmatic knowledge and reflection of their own experience.

Creative - activating tasks are those ones that educate students and their final result is always a text and talk about it. A student feels responsibility as he is the one who passes information on another student and he should know which information and which way to select. To teach students something that is far beyond the interest of teachers or students is nonsense for the teacher as well as for the students. Methods of methodology of foreign languages are divided into direct and indirect ones. The direct ones are aimed at communication and indirect ones at grammar and translation. The direct methods consist of communicative or activating methods and are suitable for teaching target languages. They finally lead to pragmatic educational goals – to functional use of language units which depend on different communicative needs (thematic curriculum) and mostly focused on language skills in linguistic practice (tasks aimed at practising pronunciation, vocabulary, morphology, stylistics and syntactic units).

At the beginning of a creative lesson, it is important that students learn techniques and gain materials that develop creativity. It is also essential that they learn the creative process and finally the teacher must teach students how to use actively creative processes. As it is the so called cyclical process of gaining creative skills, when keeping to all the aspects and steps of the cycle, a desired creative effect is supposed to come.

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In a motivating-stimulating stage, students could be involved in a creative process already when a topic is to be decided. Various techniques of selecting a topic (such as voting, brainwriting, modern words, sounds, literary works titles, etc.) may be implemented.
Creating appropriate climate that would invite inspiration and creativity is one of the key elements belonging to a preparatory stage. During this stage, writers and lecturers of creative writing use methods and techniques that stimulate writing (e.g. file/register of ideas, travelling, drawing and writing, and so on). All tasks must be controlled by a methodologist of creative writing (a teacher) and when the writing stage has ended, written products must be presented, evaluated and edited.

Nowadays, during Slovak language classes, techniques of writing that are aimed more at reproducing are in practice rather than those that focus on productivity. Reproductive writing techniques teach students how reproduce (or imitate) final model texts without involving emotions, creativity and their own experiences. The results are then imitations and copies of tasks without any deeper interpretation, analysis and assessment. The evidence is present in the form of alarming results of PISA that show the insufficient literacy of students. They are low at tasks comprehending, communicative approach of linguistic-didactics that would have impact on students´ activity is absent as well as applicability of linguistic knowledge in common communication. Pupils and students learn selected words (those are such words in Slovak in which after the consonants b, m, p, r, s, v, z the vowel "y" instead of "i" is written – students always learn them by heart – note of the author) or rules of writing commas, but do not learn what perhaps is even more important for everyday usage of the language - the correct pronunciation (Gregorík, 2015, p. 20). Knowledge and skills gained in this way – that focus on only one certain situation – are quickly becoming outdated and useless. On the other hand, as Smetanová (2013, p. 3377) says, "writing may combine the usage of all the four language skills (writing - of course, reading, speaking and listening). It brings fun and strengthens verbal skills of the student".

Texts that are found in textbooks to teach a foreign language – not a mother tongue – are closely connected to a young generation, they are interesting, up-to-date and adequate to students´ age. They are full of information, however, often too boring and long-winded; communicative tasks are related to a close environment, students´ own experiences and opinions on a current life. Questions focus on text content, they are topical or comparing the past, widely-thematic, various (from the point of view of interest and addressee). Texts are popular science or in a form of compositions. Every single article is appropriately involved in exercises and tasks that follow texts to be read.

Textbooks that are aimed at teaching a foreign language, not a mother tongue, contain topics that belong to final state exams (the so called maturita exams) on the Slovak language. The Internet is the source of topics and they are lively, rich in vocabulary, asking for students´ own opinions and they broaden their general education and views. The content involves information from different angles, in communicative parts there are many contributions to the topic set, always followed by tasks and exercises. Texts present also more serious topics full of new words - such as nationalism, xenophobia, repulsion, empathy, plurality, cosmopolitanism - that require active work with dictionaries. The final block of the late textbook is most comprehensive in topics and content and depicts the state system of the Slovak republic – and the information that the text contains are checked in the form of quiz. Topics relate to the Constitution, legal system, police and are always followed by questions and tasks. This is a fully saturated conversation block and as it is the most complicated conversational component, it is placed at the end of the textbook and studies. To find solutions to the exercises is quite difficult and students are required to have knowledge on the European Union or human rights and this may be taken also from other sources.

Tasks and exercises are various, there are different types of them, such as brain teasers and riddles and puzzles. In the educational process, it is not necessary to use all of them at once, however, teachers may decide and select those which are appropriate for their students regarding their age, language level, skills and interests. The results of such tasks enrich knowledge and broaden general overview of students. Part of the textbooks is a CD that contains recordings of texts and dictates. The advantage for students is that they may hear someone else speaking in Slovak, not only their teacher. Textbook illustrations are of various types – from pictures through pictograms and photos that accompany texts and create part of tasks and exercises. Students are supposed to describe them and answer questions. Pictograms lead students throughout the whole textbook and make students understand better or highlight for example new words.

In a linguistic section, language competence strengthens through language and stylistic exercises. In a grammar section, indirect forms of fostering a given language phenomenon are used. The language phenomenon is explained at the beginning of each chapter; examples or model sentences are introduced as well. Textbooks dedicate quite much space to differentiate vocabulary – from single words to compound ones and idioms. Passive vocabulary in texts is introduced in vocabularies at the end of each chapter. Language practice combines theoretical knowledge,

definitions, divisions and examples with tasks that follow after theory so as to the curriculum may be understood. Language practice tasks tackle language issues through problem solving activities, such as: do you think that ... what is your opinion on ... Indirect tasks that encourage grammar fixation are presented as well, such as: according to what criteria the division is made ... substitute the words ... write out ... This part is aimed at practising grammar, spelling and stylistics and most often, tasks for effective foreign language teaching are introduced: here students are required to complete fill in exercises, multiple choice tasks, correct suffixes; they are also asked to re-arrange a word order and work with dictionaries. Language practice focuses on syntax and word relations, words compounding, grammar categories and word classes. Presented language phenomena are repeated in further sentences and new facts or information is added. The end of textbooks is devoted to compound sentences – the most complicated syntactical part. They are practised in tasks that show mutual sentence relations.

There is a section aimed at writing compositions as well. It comprises a brief theoretical introduction followed by texts with exercises, such as: choose the way you will process the text; and at the same time work with texts requires the use of dictionaries in order to check the function and adequacy of the used words. In this section, students also meet with practical tasks that are part of general communicative situations, for example how to fill in correctly a form (a postal order, various application forms, etc.). Composition practice is dedicated also to various styles, e.g. publicistic style – and questions are directed towards definitions of the style, its usage in everyday conversations, genres analysis in specific texts (according to genres definitions, students are supposed to match the text with an appropriate genre or find a text in newspapers and define the genre).

A conversational section covers questions such as: have you heard about ... what do you think about ... which activities are related to ... would you like to try / have you ever tried ... what is your opinion on ... do you think that ...? There is also a section Say your opinion – and students are asked about their opinion and experience regarding a previous text. Topics are wide and devoted to regional specifics in Slovakia and at the same time we may see an element of comparison with the past or with other countries. Conversational blocks are often refreshed by humorous stories, jokes or catch phrases which – in order to be understood – requires good knowledge of vocabulary and language. Those parts that are more extensive ask for creating an outline which makes the text to be understood better. Pictures in textbooks represent not only a source of knowledge but they are also implemented in tasks. All tasks in textbooks are created in order to develop single communicative competencies that are included in the State Educational Programme:

- reading (with comprehension): a reading exercise to understand a dialogue – true/false statements, pictures and pictograms in textbooks – describing them, comment on them, fill in missing vocabulary: text with a blank space and number which hides a correct missing text, fill in missing words after listening to a CD; text divided into parts A – G and match general content to every one of them;
- listening (with comprehension aimed at correct pronunciation): playful conversational exercises: puzzle out an anagram and fill it in a sentence; mark incorrect statements; choose correct statements; generalise definitions of key words that students identify in a heard text. In Text to listen section, a text that students are supposed to listen without reading it in textbooks could be found – this kind of text is only a guide text in textbooks, essential is to understand it from listening and comprehension is reflected in answers to questions and tasks at the end of the text; text reproduction and getting key words; content reproduction after listening; re-tell stories in the first person of any character in the text (i. e. from various perspectives); say what problem is being solved in a story; show your attitude towards any character in stories;
- writing: tasks developing creativity and imagination and feedback is part of it – exercises to fill in a dialogue; students are supposed to take notes while dealing with a text and then the text is freely re-told; there are exercises in which students are to substitute expressions by their equivalents, synonyms or antonyms;
- speaking: fill in a dialogue – either questions according to answers or answers according to questions; drama activities such as act out the dialogue; re-tell the text; end the story ...; create questions according to a certain topic; use pictures to tell a story ...; to understand how human rights may be violated or on the other hand applied, role plays or situational dialogues are used to evoke experiences.

CONCLUSIONS

The aim of mother tongue as well official language acquisition is to gain functional communication literacy in which a language serves as a tool for communication in various communicative situations. This is to gain ability to succeed on the labour market in the country whose official language is acquired. There are differences in the majority (official) language acquisition and minority language acquisition – they mostly differ in approaches and intentions of teaching under the influence of environment and target-directed language. The Slovak language in minority environment represents a natural Slovak environment where minorities live and speak their language. The Slovak language as a mother tongue creates a natural Slovak environment where majorities live and speak the existed language. These facts influence content and range of the acquired language. There is a question that arises:

how to deal with teaching the mother tongue in primary schools - how to teach the Slovak language in a society that is constituted as part of a comprehensive (global) European macro-society (Luptáková, 2013, p. 2, source: http://www.jazyk-literatura-komunikace.cz/index.php/2-2013/category/23-clanky). When learning a second language in minority environment the key element is to gain mostly communicative competence and a background of language knowledge – it is a language/communicative standard that respects intercultural components of the minority. On the contrary, when a mother tongue is being acquired, the key element is to gain knowledge about the language system and its use in communicative practice, it means the emphasis is put on language and communicative competence that respects cultural phenomena of the majority. To acquire compressed curriculum of the language, methodology of Slovak as a foreign language is used and to acquire full curriculum, methodology of a certain mother tongue is used – as mother tongue serves as basis for majority of a certain country and for minorities, it is their target language.

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Producing First Aid Learning Materials For Elementary Students With Prospective Teachers

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ABSTRACT
Unfortunately, the people between 0-14 years old who died from open wounds and poisoning in Turkey in 2014 comprise 5.26 percent of the total death rate in the same year. Most of these deaths could have been prevented by people with first aid knowledge and even in schools with the help of teachers. The present research aims to enhance the first aid knowledge of prospective teachers in elementary teacher education programs by making them produce learning materials for children from 6 to 11 years old. The research was carried out by exploratory mixed-method. A 40-item first aid questionnaire developed by the researcher was administered as pre-test and post-test to (n=76) prospective teachers in an elementary teacher education program to identify the effects of material production on first aid learning. The first aid education including theoretical education with case studies was continued for 9 weeks. Then for 4 weeks, each group with four participants produced learning materials using puzzles, cartoons, games, and animations as part of the technology applications. They shared and demonstrated their products with other prospective teachers. In the qualitative section of the research, the prospective teachers were asked three interview questions to explain the reasons for the quantitative findings in detail. According to the results, the mean post-test score was 33.40, which was greater than the mean pre-test score of 23.46. The results of the paired sample t-test revealed significant difference between the mean values of the pre-test and post-test ($t(76) = 16.056$), $p<.00$. The participants (n=60) indicated that the use of materials in class is the best way of learning first aid.

Keywords: first aid education, material development, elementary teacher education

INTRODUCTION
First Aid is the application of emergency treatment to an injured or ill person without recourse to complex medical equipment. In 2012, an estimated 56 million people died worldwide and injuries caused 9% of all deaths (WHO, 2012). In Turkey in 2009, 11,176 people died from poison and physical injuries, 9,005 died from accidents, 3,909 from sanitary transport, and 214 from poisoning (TUIK, 2013). Other death rates for Turkey in 2014 included 20.7 percent from malign tumors, 10.7 percent from respiratory disorders, 5.1 percent from endocrine-nutritional-metabolic disorders, 4.3 percent from open wounds and poisoning, and 4.4 percent from nervous and sensory organ disorders. Unfortunately, the people between 0-14 years old who died from open wounds and poisoning in Turkey in 2014 comprise 5.26 percent of the total death rate in the same year. In Turkey, according to data gathered from newspaper and television reports (Report, 2013) a total of 609 children died in 2012, of whom 20 died in workplaces, 28 from violence in the family, 20 in schools, 4 from peer violence, 16 from homicides, 11 in hospitals, 114 from traffic accidents, 47 from other accidents, 15 from electric shocks, and 40 children of foreign parents died from various causes. In Turkey, children comprise about 30% of the population and to protect their wellbeing, first aid education is essential in elementary schools. In this respect, the state of affairs in Turkey is not exceptional. In England in 2002, for example, 3,000,000 people required first aid treatment in the emergency rooms of hospitals (Campbell, 2012). In Cambodia, a developing country of 13 million people, there are an estimated 20,000 burns and 2000 burn deaths annually (Hsiao et al, 2007). Karaoz (2010) found that, in 130 families contacted in the Milas region of Turkey, 53 children (40.8%) experienced a burn event. The knowledge of first aid is not related to people's education levels (Emir and Kus, 2015, Davies, et al, 2013, Edward et al, 2010). But any kind of education even compulsory education with traditional methods was shown to improve the first aid education level of students, drivers, prospective teachers, and parents (Davies et al, 2013, Adelborga et al, 2011, Bildik et al, 2010, Wei et al, 2013). Young people especially from 7 to 12 years old are perfectly capable of learning and applying first aid (Bollig et al, 2009), and there is a chance to educate a lot of people during the compulsory education period to help prevent bad situations from happening or reduce the number of deaths among patients or injured people. In Turkey, first aid and traffic courses are taught during the fourth grade in elementary education. Unfortunately, students cannot learn about first aid properly due to time restrictions, teachers' competencies, the national exam system, the high number of students in classrooms, inadequate learning tools, and traditional teaching methods (Parim, 2015, Charlier and De Fraine, 2013, Marx et al, 1998, Hammig et al, 2011, Hassoy et al, 2011). Yet, there are some good examples of different teaching methods investigated in the literature. For instance, Celik (2011) used online and face-to-face methods for different groups and found that although both methods were effective on the learning of first aid, online courses were more effective than face-to-face education. Charlier and De Fraine (2013) used game-based method and traditional method on 120 students to compare the effectiveness of the two in first aid education. They found that while traditional lectures increase knowledge level more than game-based lectures, students enjoy game-based lectures. So they suggested using different methods together with theoretical education.

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In this study, video records, case studies, and models were used alongside on prospective teachers during theoretical education. It has been shown that using video clips in lectures may motivate students, provide better understanding, help them remember key points of lectures, and improve learning process (Ljubojevic et al, 2014, Kay, 2012) and examples from social life may attract interest and the need to learn. After theoretical education, the prospective teachers in the present research investigated specific content about first aid to produce teaching tools for kids from 6 to 10 years and used those tools in the lecture as teachers. Accordingly, these prospective teachers were given the opportunity to use the learning tools they themselves developed with the elementary students for whom the materials were intended. They transferred their knowledge of first aid to teaching tools and used their tools on their peers by acting as their teachers, a fact which was mentioned by Wicklein and Schell (1995): "If knowledge has no apparent application, it may not be perceived as meaningful nor readily transferred to other situations". Also, Darling-Hammond (2006) explained the skills of teachers in the 21st century, which are to construct and manage classroom activities efficiently, communicate well, use technology, and reflect on their practice to learn from and improve it continually.

Research problem

How did the production of first aid learning materials affect the first aid knowledge level of prospective teachers?
Specifically;
Which related topic, item or application about first aid did they learn better than the others?
Which wrong applications or incorrect knowledge did they change after the implementations?
Which teaching method or techniques can be recommended to teach first aid?

THE STUDY

Method

The research was carried out by using mixed methods explanatory design. Mixed methods approaches combining quantitative and qualitative data provide complimentary perspectives on the research problem (Sparkes, 1992). A researcher first collects and analyzes the quantitative (numeric) data. The qualitative data are collected and analyzed second in the sequence and help explain, or elaborate on, the quantitative results obtained in the first phase (Ivankova et al, 2006). In this research, a questionnaire was administered to a sample group as pre-test and post- test to obtain the quantitative data with the aim of determining the effects of material production on the learning of first aid. The qualitative method was used for the interview documents to explain in detail and to understand the reasons of quantitative data. The integration of quantitative and qualitative data may take many forms including connecting results from one data set to the collection of data from another; juxtaposing quantitative and qualitative results for comparison; transforming one form of data to facilitate the other form of analysis; or forming interpretations from the two sets of results (cited from Plano-Clark, et al, 2014).

Participants

The sample group was composed of 76 prospective teachers at senior level who will soon become primary school teachers. They attended the first aid lectures two hours a week at for 14 weeks Istanbul Aydın University.

Measurements

In this research, a 40-item first aid test produced by the researcher and checked by a professional first aid doctor was used to collect the quantitative data in order to determine the first aid knowledge levels of prospective teachers. The items explained some first aid applications, giving information about some concepts and definitions of some terms in a sentence. For each sentence there were three choices: "yes", "no" and "no idea" (Tables 1, 2, 3, 4). The items could be classified as follows: 3 questions about poisoning, 3 questions about burning, 3 questions about fracture-luxation, 4 questions about bleeding, 3 questions about respiration, 5 questions about unconsciousness, 3 about sunstroke, 3 about electric shock, 2 about frostbite, 5 about cardiac arrest, 3 about sanitary transport, 3 about general first aid knowledge, 1 about open wounds, 3 about sensory organs, and 1 about organ transplantation. The test was administered twice. The first administering was done at the beginning of the study. Also, at the end of the research a structured interview was carried out with the prospective teachers to obtain detailed data for interpreting the questionnaire results. The interview included the following three questions:

- Did any topic, subject or application you had known before about first aid turn out to be incorrect after you studied the research applications?
-Which related topic, item or application about first aid did you learn better than the others? Explain why.
-Which subjects or applications did you learn best during this lecture? Explain why.

Implementation

The questionnaire was administered at the beginning of research to 76 prospective teachers attending the first aid lecture. The researcher gave them theoretical knowledge with case studies by using short videos from Turkey or other countries and the students were encouraged to participate in discussions. The topics discussed included what is first aid, the purposes of first aid, the ABCs of first aid, first aid in cardiac arrest, respiration, bleeding, injuries, fracture –luxation, poisoning, burning, animal bites, open wounds, home accidents, traffic accidents, sunstroke, electric shocks, frostbite, shocks, loss of consciousness, diabetic patients, epilepsy patients, organ transplantation,

and sanitary transport. This period of teaching lasted for 9 weeks. Then, groups of 4 prospective teachers each developed learning materials for students between 6 - 11 years old. The materials were produced by using five techniques including puzzle games, drama, animations, and cartoons and by using technology like goanimate and toondoo. The prospective teachers presented their materials to their peers in the classroom. Finally, a first aid test and interview were carried out.

Data analysis

In the quantitative section of the study, the questions in the first aid questionnaire were evaluated by assigning 0 to wrong responses, 1 to correct responses, and no scores to the response "I have no idea". The frequency of each question for both the pre-test and post-test was calculated to determine the effects of the implementations on the sample group. Also, t-test was performed to compare the mean scores for each question for the pre-test and post-test. The participants (n=76) were analyzed by the method of content analysis (Yıldırım and Simsek, 2008). The data from the interviews were encoded by the researcher and two other experts to test for validity and to generate the themes. Using the formula Reliability = Consensus / Consensus + Dissidence X 100 (Miles and Huberman 1994), the researcher found inter-coder reliability for the codes and themes to be 93 percent. All the codes were compared and discrepancies were addressed until 100-percent agreement was reached.

FINDINGS

Quantitative Results

Table 1 gives the percentages of responses for each item in both pre-test and post-test. Correct responses are shown in bold.

Table 1. Percentages of responses for items 1 to 8 in the pre-test and post- test questionnaires

	Questions	Responses	Pre-test		Post-test	
			N	%	N	%
1	A pill can be given to a patient to whom first aid has been applied.	TRUE	14	18.42	12	15.78
		FALSE	54	71.05	64	84.21
		NO IDEA	8	10.52	0	0
2	158 is the phone number for first aid.	TRUE	10	13.15	4	5.26
		FALSE	57	75	70	92.10
		NO IDEA	9	11.84	2	2.63
3	Ruptured organs are transported to the hospital in a hygiene bag with a warm environment.	TRUE	15	19.73	3	3.94
		FALSE	57	75	73	96.05
		NO IDEA	4	5.26	0	0
4	A first aid bag contains safety pins, gauze, scissors, notepad, pen, bandages, and aluminum foil.	**TRUE**	50	65.78	74	97.36
		FALSE	19	25	2	2.63
		NO IDEA	7	9.21	0	0
5	The lungs are the first damaged organ when respiratory tract is blocked.	TRUE	62	81.57	73	96.05
		FALSE	6	7.89	3	3.94
		NO IDEA	8	10.52	1	1.31
6	The nose should be blocked when air is blown into the mouth.	**TRUE**	46	60.52	70	92.10
		FALSE	22	28.94	4	5.26
		NO IDEA	8	10.52	2	2.63
7	We understand that a person is breathing if we see vapor on a piece of metal we place in front of their mouth.	**TRUE**	58	76.31	73	96.05
		FALSE	12	15.78	3	3.94
		NO IDEA	6	24	0	0
8	In cases of fainting, patients are laid down on flat ground and their feet are kept at heart level.	**TRUE**	55	72.36	71	93.42
		FALSE	10	13.15	4	5.26
		NO IDEA	11	14.47	1	1.31

Table 2. Percentages of responses for items 9 to 20 in the pre-test and post- test questionnaires

	Questions	Answers	Pre-test		Post-test	
			N	%	N	%
9	Epileptic patients are made to smell onion	TRUE	57	75	11	14.47
		FALSE	0	0	62	61.57
		NO IDEA	19	25	3	3.94
10	When unconscious, patients cannot respond to environmental stimuli.	**TRUE**	71	93.42	74	97.36
		FALSE	2	2.63	2	2.63
		NO IDEA	3	3.94	0	0
11	A tampon is used in first aid for fractures, dislocations and sprains.	TRUE	17	22.36	17	22.36
		FALSE	52	68.42	59	77.63
		NO IDEA	7	9.21	0	0
12	Cold compress should be applied to the sprained area.	**TRUE**	63	82.89	71	93.42
		FALSE	2	2.63	3	3.94
		NO IDEA	11	14.47	2	2.63
13	Luxation is the dislocation of joints.	**TRUE**	63	82.89	68	89.47
		FALSE	3	3.94	7	9.21
		NO IDEA	10	13.15	1	1.31
14	Carbon dioxide is a gas that causes gas poisoning.	TRUE	41	53.94	33	43.42
		FALSE	12	15.78	42	55.26
		NO IDEA	23	30.26	1	1.31
15	The most important sign of food poisoning is frequent vomiting.	**TRUE**	67	88.15	72	94.73
		FALSE	4	5.26	4	5.26
		NO IDEA	5	6.57	0	0
16	Patients poisoned by acid and alkaline should be forced to vomit.	TRUE	27	35.52	16	21.05
		FALSE	34	44.73	50	65.78
		NO IDEA	15	19.73	0	0
17	Burning people can be saved by rolling on the floor to eliminate oxygen contact with fire.	**TRUE**	33	43.42	63	82.89
		FALSE	17	22.36	13	17.10
		NO IDEA	26	34.21	0	0
18	The most severe burns are first-degree burns.	TRUE	46	60.52	26	34.21
		FALSE	27	58.69	40	52.63
		NO IDEA	3	3.94	0	0
19	Blisters on the skin are observed in first-degree burns.	TRUE	37	48.68	41	53.94
		FALSE	10	13.15	31	40.78
		NO IDEA	29	38.15	4	5.26
20	Cold compresses are applied to the neck and nasal cavity is blocked during nose bleeding.	**TRUE**	41	53.94	62	81.57
		FALSE	12	15.78	11	14.47
		NO IDEA	23	30.26	3	3.94
		NO IDEA	28	36.84	2	2.63

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Table 3. Percentages of responses for items 21 to 32 in the pre-test and post- test questionnaires

	Questions	Answers	Pre-test		Post-test	
			N	%	N	%
21	Gushing of blood from the body is a symptom of venous bleeding.	TRUE	16	21.05	43	56.57
		FALSE	29	38.15	29	38.15
		NO IDEA	31	40.78	4	5.26
22	Capillary bleeding can be stopped by applying tampon.	**TRUE**	42	55.26	55	72.36
		FALSE	6	24	19	25
		NO IDEA	28	36.84	2	2.63
23	Symptoms of internal bleeding include dehydration, yellow skin, and dizziness.	**TRUE**	46	60.52	72	94.73
		FALSE	6	24	4	5.26
		NO IDEA	24	31.57	0	0
24	Water and ayran with salt can be given in sun strokes.	**TRUE**	19	25	64	84.21
		FALSE	8	10.52	9	11.84
		NO IDEA	49	64.47	3	3.94
25	Abdominal pain is a symptom of sun stroke.	TRUE	48	63.15	27	35.52
		FALSE	0	0	45	59.21
		NO IDEA	28	36.84	4	5.26
26	Cold ice packs to the neck and head should be applied for sunstroke.	**TRUE**	53	69.73	66	86.84
		FALSE	8	10.52	3	3.94
		NO IDEA	15	19.73	2	2.63
27	The most severe burns occur at the entry and exit sites of electric current in the body.	**TRUE**	44	57.89	71	93.42
		FALSE	4	5.26	2	2.63
		NO IDEA	28	36.84	3	3.94
28	Death occurs too fast when the brain is affected by the flow of electric shock.	TRUE	60	78.94	7	9.21
		FALSE	5	6.57	67	88.15
		NO IDEA	21	27.63	2	2.63
29	Our urine transmits electricity.	**TRUE**	23	30.26	67	88.15
		FALSE	5	6.57	7	9.21
		NO IDEA	48	63.15	3	3.94
30	Warm drinks are given to frostbitten individuals.	**TRUE**	51	67.10	64	84.21
		FALSE	14	18.42	11	14.47
		NO IDEA	11	14.47	1	1.31
31	Frostbitten organs turn to purple.	**TRUE**	70	92.10	72	94.73
		FALSE	4	5.26	3	3.94
		NO IDEA	2	2.63	1	1.31
32	An insect in the ear can be removed by a cotton swab.	TRUE	12	15.78	17	22.36
		FALSE	54	71.05	56	73.68
		NO IDEA	10	13.15	3	3.94

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Table 4. Percentages of responses for items 33 to 45 in the pre-test and post- test questionnaires

	Questions	Answers	Pre-test		Post-test	
			N	%	N	%
33	When a foreign object gets into the eyes, they must be washed out with water.	**TRUE**	64	84.21	62	81.57
		FALSE	7	9.21	13	17.10
		NO IDEA	5	6.57	1	1.31
34	The letter A in the ABCs of first aid means to ensure an open airway.	**TRUE**	23	30.26	73	96.05
		FALSE	0	0	2	2.63
		NO IDEA	53	69.73	1	1.31
35	Slurred speech, blurred vision, sleepiness, irritability, sweating are symptoms of low blood sugar.	**TRUE**	38	50	64	84.21
		FALSE	16	21.05	9	11.84
		NO IDEA	22	28.94	4	5.26
36	A sick or injured person can be carried on the back if they are self-conscious but cannot walk.	**TRUE**	28	36.84	66	86.84
		FALSE	34	44.73	10	13.15
		NO IDEA	14	18.42	0	0
37	Tetanus vaccine should be given as a first aid measure in all kinds of open wounds.	**TRUE**	24	52.17	46	60.52
		FALSE	29	38.15	26	64.21
		NO IDEA	23	30.26	4	5.26
38	In children, cardiac massage should be applied on the breast bone with a depth of 5 cm and a compression rate of 100 per minute.	**TRUE**	23	30.26	53	69.73
		FALSE	12	15.78	4	5.26
		NO IDEA	41	53.94	9	11.84
39	If both breathing and the heart stop in adults, 30 chest compressions and two artificial respirations should be applied to provide basic life support.	**TRUE**	29	38.15	64	84.21
		FALSE	1	1.31	9	11.84
		NO IDEA	48	63.15	5	6.57
40	Fever and pain radiating from the back towards the front chest, sweating, pain in neck region, and vomiting can be the symptoms of heart attack.	**TRUE**	41	53.94	64	84.21
		FALSE	10	13.15	9	11.84
		NO IDEA	25	32.89	3	3.94
41	The area of the body bitten is washed with soap.	**TRUE**	18	23.68	62	81.57
		FALSE	35	46.05	3	3.94
		NO IDEA	23	30.26	1	1.31
42	The head of the patient should face downwards when carried on a stretcher down the stairs.	**TRUE**	33	43.42	44	87.89
		FALSE	18	23.68	30	39.47
		NO IDEA	25	32.89	2	2.63
43	Children suffering from a seizure should be washed in cold shower.	**TRUE**	49	64.47	61	80.26
		FALSE	17	22.36	12	15.78
		NO IDEA	10	13.15	3	3.94
44	Pulse control is generally done on the neck.	TRUE	34	44.73	49	64.49
		FALSE	38	50	25	32.89
		NO IDEA	4	5.26	2	2.63
45	The pulse rate of a healthy person is 70-90.	**TRUE**	65	85.52	61	80.26
		FALSE	2	2.63	14	18.42
		NO IDEA	7	9.21	1	1.31

To indicate which items were learned better than the others and to compare quantitative results with qualitative results, the percentages of responses for each question were listed as shown in the tables. At the beginning of the research, many prospective teachers responded to most items by choosing “no idea”, particularly for items relating

to the meaning of the ABCs of first aid (question 34), sunstroke (question 24), bleedings (questions 21, 22, 23), electricity shock (questions 29, 27), and CPR technique (questions 38, 39). These results in fact were surprising in that the sample group was at the senior level of elementary teacher education. All had taken first aid classes during their secondary school education and these questions were generally assessed the scientific knowledge level of prospective teachers. Although there was a decrease in the percentage of "no idea" responses in the post-test, some students still provided some "no idea" responses. Furthermore, in the pre-test, wrong responses were obtained for items related to scientific knowledge, such as "The lungs are the first damaged organ when respiratory tract is blocked" (question 5), "Epileptic patients are made to smell onion" (question 9), "Carbon dioxide is a gas that causes gas poisoning" (question 14), burns (question 19), the types of vessels (question 21), sunstroke (question, 25), CPR techniques (questions 38, 39), animal bites (question 41), and the ABCs of first aid (question 34). In the post- test, the percentage of correct responses for item 4 about the first aid bag rose from 65.78 to 97.36; item 10 concerning unconscious patients was answered correctly by 97.36 percent; item 3 dealing with organ transplantation was answered correctly by 96.05 percent; and 96.05 percent correctly responded to item 7 about respiratory check. But the highest increase in correct responses from the pre-test to the post-test was achieved in the following items: the rate of correct responses for the item about first aid during an epilepsy crisis increased from 0 to 61.57 percent; from 15.78 to 55.26 percent for the item concerning carbon dioxide gas causing poisoning; from 25 to 84.21 percent for item 24 about sunstroke; and from 0 to 59.21 percent for item 25 similarly about sunstroke. Similar increases in correct responses were obtained in item 28 about electricity shock from 6.57 to 88.15 percent; in item 29 similarly dealing with electrical conduction from 30.26 to 88.15 percent; in item 34 about the ABCs of first aid from 30.26 to 96.05 percent; in the item about CPR for children from 60.26 to 69.73 percent; and in the item concerning CPR for adults from 38.15 to 84.21 percent. There was also an increase in the rate of correctly answered questions in the item relating to animal bites from 23.68 to 81.57 percent. Nevertheless, there was some decrease in the rate of correct responses to some of the items from the pre-test to post-test. For instance, the rate for item 45 decreased from 85.52 down to 80.26 percent; from 50 to 32.89 percent for item 44; and from 7.89 to 3.94 percent for item 5.

Table 5 gives a comparison of the differences between the pre-test and post-test mean scores for the questionnaire about first aid.

Table 5. Paired sample t-test results of the responses to the pre-test and post-test first aid questionnaires based on mean scores.

	n	$\bar{x}$	*S*	*sd*	*t*	*p*
Pre-test	76	23.46	4.56	75	16.056	0.00*
Post-test	76	33.40	3.71			

P<0.005

As seen in Table 5, the mean score for the post-test was greater ($\bar{x}$=33.40) than the mean score for the pre-test (χ= 23.46). The paired sample t-test revealed a significant difference between the mean values of the pre-test and post-test (t (76) = 16.056), p<.00).

Qualitative Results

The qualitative data were obtained from 72 prospective teachers at the end of research with the help of three questions. Two themes were obtained from content analysis. One of them concerned identifying the areas and the reasons for incorrect knowledge about first aid, while the other aimed to determine the best-learned concepts with their reasons.

Theme 1: Determining incorrect knowledge about first aid and their reasons prior to the applications in class

Most prospective teachers (n= 14) indicated that "applications during the nose bleeding" was incorrect knowledge on their part before the implementation of the research. In general, they knew about tilting the head backwards as a first aid response. "*I knew pressing on the upper part of the nose and tilting the head backwards as correct first aid responses".* That epileptic patients should be made to smell onion was another piece of incorrect knowledge held by 11 participants. 7 participants explained that they had incorrect knowledge about burns; such as *"I thought that the most severe type of burns was the first-degree burns instead of third-degree ones*". The presence of incorrect knowledge was identified in 6 participants for each of the first aid items concerning sanitary transport techniques, cardiac arrest, and forced vomiting in people poisoned by acid and alkaline liquids. 43 prospective teachers indicated their incorrect knowledge about most of the subjects such as sunstroke, electrical burns, bleeding, animal bites, fracture-luxation, ABCs of first aid, and treatment with pills during first aid response. They explained the reasons for their incorrect knowledge about first aid as follows:

Learning directly from the social environment like the media, family, friends or hearsay learning (n= 30).
"I learned from my grandmother that we should vomit for all kinds of poisoning"
"I don't remember from where I learned this wrong information"
"Generally we believe whatever we hear; I think that's how I know the incorrect applications during sunstroke"
"Why I didn't think heart is working with electricity current."
9 of them have no knowledge about some first aid applications and gave responses such as:
"*I have no incorrect knowledge but I have no sufficient information about first aid".*
"I have no such experience in my life", "I didn't think logically" and "I didn't do any research about it".
One student surprisingly said: *"I am not an idealist teacher like you, I will do my job as much as I am paid. So I am not willing to teach first aid".*

Theme 2: The teaching methods and techniques to learn about first aid

72 participants identified the best topic they learned during the research implementations and explained the reasons why they think so. In general, the meaning of 'A' in the ABCs of first aid, the main rules and aims of first aid (n=13), first aid responses to epileptic patients (n =12), nose bleeding (n=11) and general bleeding (n=11) were learned better than the other topics. Animal bites (n=10), injuries (n=9), fracture-luxation (n= 8), burns (n=8), sanitary transport (n=6), sunstroke (n=5), cardiac arrest (n= 4), poisoning (n= 4), artificial respiration (n= 4), electric shocks (n= 4), frostbite (n=4), and all other topics were also learned through the research applications. Also some of them said that they had learnt some rules during these applications, such as keeping the head down instead of up during nose bleeds, removing people around an injured person, pinching the nose shut during artificial respiration, pulse measurement, understanding whether breathing is continuing or not, and transport rules for organs separated from the body to hospital.
The participants wrote about the teaching methods and techniques related to the best-learned topics. These included material production for students (n = 45), the use of materials to explain the topics to the class (n= 60), visual materials (n=15), drama (n= 15), peer presentations (n=6), and case studies with videos (n=30). In addition to the teaching techniques, they also said things like '*I will need them in my life in the future* (n= 15) and *I had experienced it* (n= 28). Below are some examples of the responses:
"I learned about animal bites because it was our homework and we had to read a lot about it."
"We learned about the first aid rules for sanitary transportation; my peers performed drama in the class very realistically."
"I was particularly influenced by the videos about burning and bleeding; they were so interesting."
"Drama was the best method for me; I learned about CPR from your drama and about sanitary transportation from my peers."
"When we were devising a drama about sanitary transportation, we read the book and your notes over and over again and we had a lot of fun with my friends. After the lecture presentations, we actually carried one fainted janitor in the university, and thank you for your life-long learning method."
"After we learned about the first aid rules about bleeding, I cut my finger and I realized the importance of first aid.
"I learned about fracture and luxation because recently my brother had broken his leg and the topic attracted me.
"I learned about the first aid methods in frostbites because it was my homework and when I was preparing for it, I read many articles and news"
"I learned about food poisoning because it was my homework and I corrected my mistakes".
"It was not interesting for me; I learned that I cannot do anything about first aid because my character is not suitable for that, but I learned important things like stopping screaming, clearing the surroundings of a patient and certain precautions against accidents.
I reorganized my home to protect my daughter from home accidents; I think videos should be used to educate mothers.
The best response obtained through the research was the following:
"I realized that if you had given us PowerPoint assignments, then we wouldn't have learnt as is the case with other lectures. I think your assignments involved many learning methods such as research, creativity, reading, visual learning, production of materials, so other than first aid, the methods and techniques you used for a simple lesson also taught me many things. I was especially surprised at the silence and interest of a class of over 90 students."

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CONCLUSION

Even though the sample group was comprised of senior-level students of teacher education and they had received compulsory education about first aid during their high school training, the results of the responses to the questionnaire in the pre-test demonstrated that there were some prospective teachers who gave a 'no idea' response to all questions. This could be attributed to reasons such as traditional teaching methods, time restrictions, teacher competencies, and insufficient materials in the schools (Parim, 2015, Charlier and De Fraine, 2013, Marx et al, 1998, Hammig et al, 2011, Hassoy et al, 2011), and the results that the knowledge of first aid is not related to people's education levels (Emir and Kus, 2015, Davies, et al, 2013, Edward et al, 2010), which indicates that there was no relation between the first aid knowledge level and people's education levels. Yet, a relationship was found between the socio-economic level of parents and the first aid knowledge level (Wei et al. 2013). As far as the quantitative results are concerned, most of the students provided incorrect answers usually in items such as "The lungs are the first damaged organ when respiratory tract is blocked", "Epileptic patients are made to smell onion", "Carbon dioxide is a gas that causes gas poisoning", burns, the types of vessels, sunstroke, CPR techniques, animal bites, and the ABCs of first aid.

As for the reasons of incorrect responses, which was dealt with in the qualitative section of the research, the prospective teachers explained their reasons by saying, for instance, *"I learned from my grandmother that we should vomit for all kinds of poisoning," "Generally we believe whatever we hear," How could I not think that heart works with electric current."* And from this, it could be concluded that individuals' social environment like the family and media has a greater impact upon their learning than schools and also insufficient learning in science education reflected the students' first aid knowledge level (Parim, 2015), examples of which included thinking that carbon dioxide causes poisoning and people who drunk acid should be forced to vomit. Responses like '*I have no such experience in my life'* showed that if a student or anyone had no experience or has not been in similar situations in their life related to the concept taught, then long-term learning, meaningful learning, and forming connections are not possible. A significant difference was observed between the pre-test and post-test results. Apparently, developing teaching tools and presenting or applying them in class ensured the increase in the first aid knowledge levels of prospective teachers. The items that were learned best were similar to those about which they had incorrect knowledge before the research; such as epileptic patients' need to smell onion, carbon dioxide, sunstroke, and electric shocks, the ABCs of first aid, CPR techniques, and animal bites. Their incorrect answers in the pre-test and their explanations aiming to identify the unknown or misknown items in the qualitative section were also similar. The most important result of this section was that the same units were learned better than the others. When they explained which method or application provided better learning, thirty students indicated that their best learning method was the use of videos by the researcher during theoretical education. Both videos like the statement of one prospective teacher '*I was particularly influenced by the videos about burning and bleeding; they were so interesting*.' Also, explanations by the researcher about the first aid concepts affected their learning. So even though they were older than elementary students, a long-term training of 9 weeks was required in this research (Kirschner et al 2010, Parim, 2009), and videos from daily life were attractive and helped better learning (Ljubojevic et al. 2014, Kay, 2012). Sixty prospective teachers defined the best learning method as the use of materials in class. They used sentences such as *"I learned about animal bites because it was our homework and we had to read a lot about it; I learned about the first aid methods in frostbites because it was my homework and when I was preparing for it, I read many articles and news; Drama was the best method for me; I learned about CPR from your drama and about sanitary transportation from my peers; "I learned about food poisoning because it was my homework and I corrected my mistakes."* The common point of all these sentences is that giving chance to students in which they could construct their learned concepts, the outcomes of their learning as tools, the use of these tools as a teacher in the classroom (Wicklein and Schell, 1995) and acting as students when their peers apply the tools ensured the best learning about first aid. This is not new; in fact, it was long ago that Bransford et al. (1989) noted that students must have the opportunity to apply their learning and experience its effects on their own performance (p.188). Finally, looking at the comments of prospective teachers like *"I think your assignments involved many learning methods such as research, creativity, reading, visual learning, production of materials, so other than first aid, the methods and techniques you used for a simple lesson also taught me many things. I was especially surprised at the silence and interest of a class of over 90 students",* it could be underlined that using different teaching approaches in lectures enhance interest, deep learning and realization of different teaching methods and techniques (Charlier and De Fraine, 2013, Celik, 2011). Friedlan (1995) also stated that using different approaches engage many different skills on students as is done in this research with drama, the use of technology, creating games and puzzles, all of which supported the learning of prospective teachers with different learning styles.

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Recent Tendencies In Higher Education Research In The Scope Of Functioning Of The Hungarian Higher Education

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ABSTRACT
Nowadays, practical and theoretical disputes' central question is "Higher education as an issue" in different groups of the society. The question arises how higher education institutes set in the service of mass education could train intellectual professionals who meet the expectations of the new century. These tendencies have transformed the role of state. In parallel, the expectations of society towards higher education system have also changed.

The investigation of historical, social, constitutional and political grounds of higher education have already pointed out the complexity of this question and that the classical views on higher education cannot be maintained in the 21st century.

This issue could be examined with several tools of different scientific disciplines which support to draw multidisciplinary conclusions on the issue.

Accordingly, the authors of this paper – holding scientific degrees in political science, law, sociology and economics – are examining which questions of social, economic and education management have influence on the day-to-day operation of higher education. Through the evaluation of Hungarian examples the authors are providing examples to support their conclusions.

GENERAL STATE OF HIGHER EDUCATION RESEARCH
Education as a research area has primarily appeared in the context of public education but the rapidly growing social significance of higher education in the '80s induced the emergence of a research area specially focusing on this sector. These changes affecting higher education as a social subsystem led to the consequence that scientists of different fields choose to study higher education itself. As a result of the interaction of these processes the research in higher education lost its "auxiliary science" nature and become self-discipline. The common feature of these research works is that - normally - they only deal with the factor that is closest to them. The scientists of liberal arts are especially interested in the "idea of the university", the researchers of history of science are describing the history of higher education, while the pedagogy experts made didactic works (Hochschulpädagogik). The economists expressed their opinion in particular regarding the issues of governance, management or financing of institutions. The empirical social scientists mainly produce papers in educational psychology, and sociology of education. Thus research of higher education is ultimately a science research, mainly performed by persons who are in the scope of it (Kozma 2004). The importance of this issue, as well as the research and the higher education itself is increasingly internationalized, encouraged the comparative analyzes. Co-operation in higher education was considered one of the most successful feature of the European integration process. The support and follow-up of the integration would be unfeasible without such comparative analysis. Number of researchers engaged in this area is growing significantly. The reason for this is that over the last few decades as a result of social and technological development the demand for information in higher education increased greatly. Having reviewed these publications, it can be stated that there is a few synthesizer-type publications regarding the national higher education systems as a social subsystem. This is because, inter alia, the government with its higher education policy - recognizing the major social changes related to higher education – regularly interferes with it, thus keeping the higher education system in a continuous change and movement.

Major examples for significant changes in the higher education are a) growing public demand for higher education b) as a result of it, the mass education effect and the increasing number of lecturers c) thus necessary structural changes in higher education d) new directions of higher education policy – most typically the Bologna-process (Hrubos, 2006) e) and as a result of before mentioned reasons an emotional change affecting lecturers' daily lives emerges because of the changes in higher education system as a social subsystem (Inayatullah, 2005). In the

developed countries as a result of the expansion in number of students, in addition to the earlier only existing universities the non-university sector institutions have emerged. They provide shorter training time and usually deliver good functional knowledge on the labor market. In the Anglo-Saxon countries the linear model became generally accepted, in which certain levels of trainings are based on each other. This model has spread to most parts of the world. In continental Europe, the dual model emerged: universities and colleges operate in parallel, with quite different systems from country to country.
The reason behind these large scale changes in higher education systems shall be searched in its expansion. Before the World War II, less than 10 % of the typical higher education age groups attended a higher education institution; at the beginning of '60s in Western Europe a very rapid and then slower enrolment growth rate was observed. By the millennium this rate exceeded 50% across whole Europe (Trowe, 1974). This can be considered as a "mass". According to experts, this growth is unstoppable because of individuals failure to attend higher education is generally considered as a significant risk (Hrubos, 2004). The composition of the mass of students', their social background and previous experience, motivation, career plans become increasingly heterogeneous, which led to expression of a wide variety of interests and values. The scope of prospective employers and their demands increased likewise (Hrubos, 2006) since they represent a wide variety of industries and sectors, employing a large number of graduates. As a result of the large number of students, and the economic recession it is not at all guaranteed that a graduate will be able to find a job. For this reason students' increasingly put pressure on higher education to adapt to the current and future requirements of the labor market thus de-emphasize the academic thinking and long-term considerations (Hrubos, 1999). These previously unknown challenges to higher education now become increasingly important for this independent social subsystem. As a result, both the governments and higher education institutions are facing serious challenges.

Nowadays, practical and theoretical disputes' central question is the "Higher education as an issue" in the different groups of the society. The question arises how higher education institutes set in the service of mass education could train intellectual professionals who meet the expectations of the new century (Redl, 2001). This question was examined from several aspects by higher education researchers, and several of them and - being their scientific areas best experts – provided adequate answers in this respect: today a researcher may choose and rely on a rich national and international literature to research the historical, theoretical and practical aspects of higher education (Altbach, 2002). The importance of this fact is that the research of the higher education system is classic example for field of studies which cannot be examined by methods of a single discipline. The question of financing the education – and within this the higher education – is one of the evergreen topics of social sciences, since the financial operation of the colleges and universities also raises many – important – side questions (Kozma, 2006).

It can be concluded that the number of students continuously rises since 1960s. Highlighting the last 25 years: in 1991 68 million, in 2004 132 million people studied in the higher education worldwide (in Hungary in 1990/1991 school year 108 376, while in 2004 (which was a top year concerning the numbers of the students) 424 161 students attended colleges and universities. Between 1995 and 2008 in the OECD member countries the cost on one student have been increased by 16%, while the higher education expenses increased by 75% on average.

All in all, we can state that higher education is under major changes all over Europe as the state's role has been redefined. Earlier the state was basically an institution maintainer; it regulated, examined and funded higher education. In contrary to the recent tendencies where it assures quality, makes guidelines and monitors them and the emphasis is on the improvement of the social mobility. The recurring financial-economic crises led to funding problems and as a result financial constraints have been made. The aim is to allocate public funds more efficiently, and the given financial sources have to be used more effectively. Basic requirements are accountability and transparency. In this situation increasingly sharply appear the questions about the economic and social usefulness of higher education. In Hungary as a result of the last 2-3 decades expansion of underfinanced higher education the quality has been inflated. This negative result can be deducted from undersized infrastructural-staff structure and led to further organizational, institutional network and financial viability disorders.

This situation became worse in the last decade because of the demographic reduction, as the increased institutional size (educational and research capacity) in system level could not be maintained with the previous selection mechanism such as recruitment process and admission requirements. In Hungary the public higher education and the ecclesiastical higher education financially supported by the state together have 335 000 students. This huge system cannot be maintained and financed according to the analysts and policy makers. With regards to the developed European countries and the status of the Hungarian national budget the obvious aim has to be stated that the state higher education has to be transferred into self-financing.

According to this article's authors this aim is not reasonable, as there are areas in higher education which hardly or cannot be interpreted in market basis. If, however the previous and current state financing methods would be

revised and reformed - with maintaining or even increasing the quality of higher education – higher education could be turned into a mainly self-financing system.

If the question is about the financing of a system - including higher education system -, or manufactory, etc. it is important to note that the funding itself is always multi-player process in which the income flow is regulated between the participants (agreements, institutions, rules, practices).

In the case of higher education, it would be possible to examine the indirect funding instruments system too. However the scope of the analysis is limited to domestic (Hungarian) higher education system - and within it to the higher art education funding - and the tax system in Hungary in recent years moved away from the involvement of individuals or businesses (e.g. with tax incentives) to fund higher education institutions or education in them, thus we are unable to analyze these funding solutions through practical examples.

SOCIAL, ECONOMIC AND ORGANISATIONAL CONTEXT OF THE HUNGARIAN HIGHER EDUCATION IN THE LIGHT OF CONTEMPORARY TENDENCIES OF HIGHER EDUCATION

The Hungarian society (thus the political elite as well) inherited two fundamental articles of faith from the social-political-economic bankruptcy of socialism: on the one hand, there is entitlement to higher education as public service, on the other hand university or college education is a public good ensuring personal advantages but only for few people. In practice, all of these resulted in the following: whereas the wave of expansion of higher education forming after the wave following the end of the second world war happened in Western Europe at the time of economic slowdown of '70s and '80s, until it happened in Central and Eastern Europe during the economic-social transformation.

Consequences of the two above articles of faith: on the one hand, higher education need(ed) to be broadened to make it available - thus giving a chance - for many people, which incidentally matched international trends, requirements and the social and economic rationality of '90s and 2000s; and on the other hand, mostly contrary to international practice, we tried to realize higher education emphasizing state involvement and ignoring the financial role of individuals (families) and companies. Of course by this time, private and ecclesiastical higher education could appear in addition to state financed higher education, in the financing of which the state played a decisive role for a long time.

It can be concluded that while at the beginning - previously according to the international practice as well - the expansion of higher education was built on young people leaving public education, now the non-traditional forms of education play a decisive role as well; furthermore, the combined demands appearing due to demographic and labour market training simultaneously supported the high level of development of higher education in Hungary. The overall conclusion is that the governments of the past quarter of a century - regardless of political, ideological affiliation - treated the expansion of higher education as priority until 2006 when a conceptual change occurred: expansion of state-subsidized places was terminated indicating that the state does not intend to ensure greater source than the level achieved for higher education financed from the central budget.

Furthermore, it can be concluded that the ratio of participants of college and university education changed from the beginning of '90s until the adaptation of Bologna process in the Hungarian higher education because while the university education providing mainly academic knowledge and the practice-oriented college education were present in nearly half and half two decades ago, the ratio of participants of university education did not reach 40% for the mid-2000s. However, in addition to these it can also be concluded that the sharp line between colleges and universities seems to be dissolved as well because from the beginning of 2000s the university education accredited by colleges were frequent and universities also launched a significant number of popular college programs thus the two types of institution were approaching towards each other considering their financing.

In addition, it shall be stated that the GDP ratio of sources spent on Hungarian higher education (around 1%) has not changed for more than a decade, which means significant proportional expense reduction in practice due to the increase in number of students; the current real terms of state subsidy is in fact half of the subsidy for the year 1991. Even the state subsidies, tenders, EU sources, PPP investments, student loan financing (which substitutes student support) and the tuition fees collected by the institutions together are not enough to operate the system. It can be declared that the system cannot be financed sustainably under this practice thus the (quasi) normative financing - based on the number of students - developed during the expansion must be terminated in the short run because its incentive effect is contrary to the quality-based operation of higher education in the present demographic situation.

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The current model of maintenance of institutions is no longer able to sustainably finance the Hungarian higher education capacity that increased in the past decades, the general utilization of which is decreasing simultaneously with the decrease in number of applicants and the previous capacity expansion of which often contained inherently distorting, unnecessary elements, by the toolkit of normative financing based basically on input indicators. However, it can also be concluded that the capacity decrease of the previous five-seven years as well as the increased budgetary control and the recurring cuts then paybacks do not allow the present quality improvement of higher education in Hungary. Accordingly, those facts must be kept in mind in the future, which determined not only the present but also the recent past (even if they were disregarded): extension of the Hungarian higher education is completed, concentration of the training - within the fragmented institutional system - took place in favor of institutions operating mainly in the capital and to a lesser extent in the county seats and all of these results/resulted in significant differences (over- and under-funding) compared to the financing under grant.

CONCLUSIONS

The solution may be that the current close state management and maintenance control stemming from the public finance framework will be replaced by the institutional organizational and management autonomy, which can make the universities and colleges founded by the state competitive through the operating logic similar to the private institutions, or the government undertakes to reorganize the institutional system and rationalize it based on the domestic demand decline next to the narrowing economic-budgetary options, namely coordinates the new contraction phase of the Hungarian higher education in parallel with liquidation of certain elements of the institutional system - even with stronger central process control. The latter seems to emerge nowadays, however, in relation to this we can also say that the higher education governance currently walks the path of development of sectoral strategy (accepted and known by the actors as well) ensuring the basic condition of operation under strategic oversight of the Hungarian higher education.

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Research Of The Essence Of The Pupils' Activities Based On The Emotional Level, Or, What Does The Pupil Experience During The Instruction?

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ABSTRACT
The treatise, based on the current trends distinct in the pedagogical theory and practice, reacts on the need of development of a research about the pupils' activities that manifest themselves during the realization of the inquiry-based instruction. It reflects the requirements of the society that requires training and education of the individuals who are able to solve the problem situations. That allows further education and successful integration into the society as well. The treatise follows the theory of problem solving, theory of emotions and their application during instruction.
The performed investigative research was focused on discovery of emotions that manifest themselves during the process of education in connection to problem solving and acceptance-based learning. The investigative research was oriented on the pupils of the secondary level of the basic school (ISCED 2).
We can state on the basis of the investigative research that the inquiry activities are significantly linked to pupils' emotions and experience. The treatise based on the analytical, comparatively-critical and inductively-deductive methods creates a basis for a suggestion and construction of a model of the pupil's emotional character during the problem solving processes. The investigative research itself is based on empiricism – interviews and direct observation of the individuals solving problems.
From the executed investigative research, the emotional diversity within inquiry-based instruction emerges, i.e. the pupil experiences different emotions during the tuition – calmness, joy, astonishment, tension, sadness, anger. Those emotions seem to be important for an effective learning process. On the other hand, the acceptance-based instruction seems to be not as emotionally rich. The principal finding is that during the inquiry-based instructions are the experienced emotions of the pupils connected more often to the subject matter, resp. to the learning content. During the acceptance-based instruction, the emotions were for most of the time related to the circumstances that are not related to the subject matter itself.

Keywords: pedagogical theory

EMOTIONS OF THE PUPILS DURING THE EDUCATION – THE CURRENT EXPLORATORY TOPIC

The significance of the emotions in the educational fields does not have to be proved, e.g. J. Maláč and M. Francová (1975) have already some time ago noticed a fact that when the pupils access learning with the joyous expectations of new information and the classes will allow them to at least sometimes experience some adventures of the new discoveries, their interest will be nurtured in such a way that can make it deep and permanent. The direct bond of the emotions and pupils' research is mentioned by J. Linhart (1976) who states that the discovery of a problem and its solution are both accompanied by emotional states. Other authors oriented on the pedagogical research are e.g. V. Janíková (2005), J. Kratochvílová (2003), and Z. Friedmann and B. Lazarová (2009). However, emotions that are bonded to the inquiry-based instruction were not analysed in detail and in other authors' works was no attention paid to them – therefore the further analysis and research are needed.
From publications published in the Czech Republic and abroad is it obvious that the authors pay a significant attention to the bond between emotions and education, i.a. in the Czech Republic is the education of experience developing recently. In practice, there is an apparent interest paid to the emotions related to the humanizing tendencies that are being applied in education.
The term emotion is, considering the different understandings during the historical development (i.a. behaviourism, cognitive psychology and humanistic psychology), very hard to define unambiguously. As D. Heller (2007, p. 1) states, emotions have always been considered to be an experience of excitement that was caused by a specific and important situation in life, or, as experiencing of vegetative changes. The feelings of something pleasant and unpleasant have originally signalized a biological value of the stimulus (either positive or negative). Nowadays, these situations are considered as an integration of excitement and cognitive treatment. M. Nakonečný (2000, p. 16) defines emotions as phenomenally specific and as a complex psychical phenomena of assessment of the situation or the stimulation; they have a new experience (emotional) component that is a key component because it constitutes with getting to know the importance of the situation in unity; furthermore a behaviourist (inclusively expressional) component and a somatic (mostly visceral) component. They are basically a reaction to the life important situations that, besides the identification of their importance, also include the activation of the individual to the essential adaptation to the given situations. Emotions are key phenomena, because they create a

basis of the behaviour's organization and motivation and they give it a psychological sense.
Emotional system and its effects include the whole individual and therefore it is the development and direction of the emotional system a necessary condition of the development not only from neurological, mental health and mental hygienic point of view, but also from the essential cognitional and educational point of view (V. E. Fernandes, 2004, p. 240).

I. Stuchlíková (2002, p.120) pointed out the following bond: the emotions are tied to the cognitive processes very tightly, inseparably and in every moment since the whole beginning of the information about the acting stimuli processing. Emotions, as V. E. Fernandes (2004, p. 242) states, cause integration or discrepancy, motivation or demotivation, interest or disinterest in what is being done or has to be done. Directly to the process of learning says V. E. Fernandes (2004, p. 239-250) that: there is a conspicuous need of a certain amount of emotions that are included in the process of learning that means amount of a positive and dynamic excitement and stimulation. Thanks to the emotions the child is looking for an object that he/she wants, experiences, gets involved in and acquires experience. It is without any doubt that every human is learning better with joy and pleasure than with sadness and pain.
Abroad, we can encounter researches that are not common in the Czech Republic. The influence of emotions on the problem solving and creative thinking is investigated. For example, A. M. Isen (2000) should be mentioned because she performed a research dealing with the influence of the positive emotions on effective problem solving, decision making and evaluating of situations. She found out that positive emotions support elaboration and organization of thoughts that lead to the flexible thinking. Positive influence on the flexibility of thinking and creative problem solving are also mentioned by F. G. Ashby et al. (1999). G. Kaufmann and K. S. Vosburg (2002) emphasized also the role of the positive mood that appeared to be in their research a factor with positive influence on creativity and sorting out thoughts.
By an analysis of the literature and other informative sources, we have not come to a cognition of emotions during thinking process, individual's problem solving and influence on solving process itself. It is only possible to find the knowledge that supports new reasoning. For example, P. Benešová (2008) sees a great potential in the emotions, whether it is about thinking processes, creativity or problem handling. She is convinced that people's thinking in positive emotional state exhibit unusual signs – it is more creative, more flexible and more accessible to the stimuli that come from the surroundings of the given individual. Persons that experienced some positive emotions have broader repertoire in handling problems than people who experienced some negative emotions. Even the other studies that are dealing with the relationship between the cognitive activation (e.g. Pekrun and Schiefele, 1996) and emotions in detail confirm that the positive emotions support activation of the cognitive devices. That means that the task-related learning processes are strengthened by that and, conversely, there are reduced cognitions connected to the individuals (in English self-related cognitions) – all of this has the positive influence on performance (Janík, Lokajíčková and Janko, 2012).
Negative emotions, in contrast with the positive ones, do not support the flexibility of thinking – they narrow the present thought-active repertoire of an individual (Stuchlíková, 2002, p. 106). M. Nakonečný (2000, p.85) states similarly that in the states of anxiety, anger, depression and sadness gets the thinking narrower and its content is circling around the same topics. In an investigative way made by P. Hertelová and S. S. Rudová it was possible to find out that presence of negative emotions decreases the readiness of an organism to perform cognitive activity.
As it was already mentioned, the purpose of the inquiry-based instruction is to teach the pupils to get to know the surrounding world together with exploring knowledge that have to be acquired (remembered). The knowledge explored by a pupil him/herself is accompanied by emotional states that can in case of the positive emotions contribute significantly to the permanence of adaptation. V. E. Fernandes (2004, p. 241) states that emotions and affects accelerate and facilitate the integration of new pieces of information and knowledge to the old ones, they accelerate accommodation, change mental structures and create a positive perspective of the process of a common structure between the cognizing person and an object of cognition.

INSTRUCTION AND ITS CONCEPTION FROM THE COGNITIVE POINT OF VIEW

The contemporary education is based mostly on transmitting of the knowledge, cultural formulas and social experience to the younger generations that were reached by the mankind during historical development and that are socially important considering the present or the future needs and expectations. The curriculum given to the pupils is created by applying of different cultural areas (science, technics, art, activities and values) to the curricula, syllabi, workbooks and educational process (Skalková, 1999, p. 63). The operational and factual knowledge that humanity disposes of is transformed as well as the social activities, value orientation and attitudes of the pupils (Skalková, 1999, p. 64).
The particular educational content during learning becomes a knowledge or another disposition of the pupil (Slavík and Janík, 2005). The pupil is learning to cognize and cognizes the surrounding world in which they integrates and they tries to influence it and get influenced by it. The surrounding world is complex and not only for the pupil is it often difficult to grasp it. It is possible to divide it into four basic spheres – the sociosphere (which includes i.a. the cultural habits, morality, ideology and policy of the human society, science or legal system), the biosphere

(which includes the parts of the planet Earth where is present any form of life), the geosphere and the technosphere (which is the net of artificial human culture used to lead the motion of natural resources that we need for our lives). The purpose of education is therefore not only to get to know the world as a complex unity but also the important facts that have some effect on the life of the individual or even influences them. The further purpose is to integrate the individual into the society and teach him/her how to live in it fully. However, different nations consider different facts as substantial and that is why the educational contents differ. But what actually is in the common framework identical is the fact that from gnoseologic point of view the pupil reaches the cognition that includes both the process of acquiring knowledge about the real world (i.e. the cognition) and its result (i.e. the knowledge, information). The pupil acquires the knowledge that is a representation, mental (cognitive) reflection of the surrounding world; they reflects all of the spheres, in the concrete level by a model of a specific object, phenomenon or mutual relations. Mental model as a unity can therefore be understood as an inner representation of a reality, a surrounding world that we create in our mind. These are conceptions of the real facts and therefore this is a representation of real world. These are the results of the sensory perceptions combined with already saved knowledge. The pupil is therefore building the cognitive model from his/her birth, he/she gradually reconstructs and develops it. On the basis of the pieces of information mentioned above, this may seem as the one-sided orientation on the cognitive component of an individual that is from the educational point of view carrying, but from the formative point of view the emotional, affective and behavioural components cannot be neglected. Their importance is unquestionable and demonstrable in a relation to any cognized entity of the world that is a subject of thinking or on which all the attention is focused, e.g. there appear some opinions and thoughts in the cognitive component, feelings in the emotional component and there is a tendency to act or behave in behavioural (conative) component. Therefore, it is not an aim to "transmit" the knowledge, but to cause a change in pupils' consciousness as well.

The pupil enters the educational process at the level of a basic school already with some ideas about the surrounding world, i.a. he/she has a cognitive model on a specific level (rate, accuracy, vagueness) that corresponds to his/her psychosomatic development and therefore it is needed to diagnose it and to consider other connections as well while its remaking – the transformation, reconstruction. This fact is in the pedagogical theory already being solved for a long time and we encounter such terms (in this context) as the preconcept, a naive idea that is associated directly to the cognitive pupil's model. It is desirable and necessary to consider (diagnose, reconstruct, develop, enrich, create bonds) the current cognitive model of the pupil, i.a. the form with which he/she enters the process of education.

The cognitive model of a pupil can be actually transformed and developed on the basis of two approaches of acquiring an image about the surrounding world in all of its dimensions that include also integration of an individual to the society. It is not possible to reach the complex cognition without any sign of vagueness in none of these cases. However, it is possible to agree with the objection that those cases are extreme and that they do not appear in their distinctiveness in the educational reality as a whole. In the historical context, there are obvious tendencies to incline to more or less one of those models or to apply them in a modified form.

In the first of those cases, the cognitive model is developed on the basis of transmission of the substantiated amount of knowledge about the surrounding world, values, attitudes and skills chosen by the teacher or by some other suitable devices, or with a help of sustainable devices and their acceptance by the pupils as a truth that has to be accepted and become adapted to it. The pupil accesses to the content of the education dogmatically and his/her work is to acquire the transmitted curriculum most precisely and in the shortest possible period of time, to learn a lot of knowledge, to accept the required formula of behaviour, to take the assumed attitudes and to acquire the needed skills. In this case, the pupil perceives the adopted curriculum as "something complete", as a truth that has to be accepted and to which it is needed to become adapted to. In contrast with dogmatic education, the teacher supports his/her statements with the scientific underlay and expediency of the adopted knowledge to the pupils, he/she verifies it continuously. From the psychological point of view (according to the character of the educational content), on the pupil's side is taking place the conceptual education, sensorimotor education or sensorimotor education under increased use of memory.

This conception of transmitting knowledge is in literature named as "transmissive", "instructivistic", "reproductive", "reception", "drill", "memory acquisition", "memorization" or a "principle of funnel". However, none of those, partly overlapping, terms, captured fully the essence. Therefore it seems to be essential to emphasize the essence of this form of the cognitive model reconstruction, which is the "acceptance", and to introduce the concept of "acceptance-based instruction". It reflects the core principle of this type of instruction, i.a. the pupil does not dispute the transmitted content internally and on the basis of his/her own motives, so that he/she actively "explores" the truthfulness and can get to know also the broader context, and it is not made to be aware of conflicts that were caused by artificially created situations. The acceptation is defined (Vymětal, 2000, p. 505) as the individual's attitude that is characterized by the willingness to accept the facts that influence the pupil and to acquire them possibly (unless they are already part of their inner world).

The pupil is rewarded positively for the acceptance of the subject-matter and its acquirement in the form of knowledge, skills and attitudes. The typical activities are memorizing of knowledge, learning of activities,

acquirement the formula of behaviour.
The acceptance form of instruction, as it was characterized, was in past subjected to several criticism, e.g. A. M. Matyushkin (1973, p. 18) was observing, that when a child starts attending a school, it sometimes happens that he/she unlearns to think. The teacher thinks for them. The teacher explains knowledge that they should acquire, asks the questions and immediately answers them; they creates tasks and explains immediately how to solve them. In this kind of instruction, the pupils are becoming so passive during the few years that, in the process of adaptation, they never make a step on their own. According to the possibilities, they are trying to avoid the intellectual burden and they transfer it to the closest adults or classmates. It is not possible to execute a significant part of educational content, which is the experience from the creative exploring activity – skills and habits, transmitting experience in searching for a solution of a new problem – through the repetition of accepted knowledge and activities that are already shown or told. For the acquisition of the experience's content of creative activity, the pupils have to encounter completely new problems that they have to solve during the process of exploring (Lerner, 1986, p. 69). Another possibility to transform the cognitive model of a pupil is to bring it into a conflict with his/her already existing knowledge, skills, attitudes and behaviour, with a form of the real world or needs that cannot be satisfied by the current cognition of the pupil, level of his/her skills or by the readiness to solve the given situation. Through the conflict, the pupil is led, activated to explore, to find possible ways how to solve the given state, how to come to the new cognition and how to balance the new cognition with the surrounding world. The artificially caused situations may help the pupil to feel the conflict. Also, the inner motives that cause sceptical opinion on the world and stimuli that he/she perceives or he/she interacts with them may help him/her as well.
It is very substantial to create the conditions that are vital for children's need to explore, to acquire the ways of human behaviour and thinking. The conditions causing the intellectual difficulties are caused by a fact that a person (child) cannot accomplish the task with the help of already known or acquired ways. For its accomplishment he/she needs to find a new way of solution. Those situations cause inevitable thought processes that are in psychology called as the problematic situations and the given tasks are called the problematic tasks (Matyushkin, 1973, p. 20). When the pupil is actively cognizing the surrounding world, he/she develops his/her thinking, learning of intellectual activities. This definition of transmitting knowledge is in literature called "exploring", "investigative", "heuristic", "discovering", "problematic" and "critical" instruction.
With inquiry-based instruction is closely connected to a term problem which has to be more analysed. The analysis includes formulation and problem solving, although it is not done only by these means. In the pedagogical theory, the problem is understood as a difficulty of theoretical or practical character that cause exploring attitude of a subject and leads him/her to enrichment of his/her knowledge (Cz. Kupisiewicz, p. 16). Another Polish scientist, W. Okoń (p. 79), understands the problem similarly as he defines the didactic problem as a practical or theoretical difficulty that the pupil has to solve by their own active exploring. The basis of this difficulty is usually systematically and intentionally organized situation in which the pupil tries to overcome the problems in accordance to specific needs and they acquires new knowledge and new experience by doing so. An analysis of this situation leads to the formulation of a problem – the lexical definition of the difficulty.

INVESTIGATORY PROBLEM, AIM OF THE RESEARCH AND THE RESEARCH QUESTIONS

As already mentioned, a number of authors do in their works mention a connection between the emotions and acquirement of knowledge (i.a. Maláč and Francová, 1975; Fernandes, 2004; Pekrun and Schiefele, 1996) and the problem solving (i.a. Linhart, 1976).
In connection to information mentioned by the authors it is not clear enough what exactly is the emotional source that influences the pupils during the instruction. By a logical consideration it can be concluded that the device is the teacher, but any other element of the education can serve as device as well. The emotional source can, however, exist outside the instruction, outside the educational content. The previous consideration deduces a very simplified conclusion, because, as it was already described in the theoretical part of this article, the instruction can be understood as acceptance-based or inquiry-based. The pedagogical theory does not provide a clear answer how does the pupil experiences the instruction and what is therefore the source of emotions he/she experiences. The positive influence of the emotions is very often mentioned, nevertheless, it is still unclear what kind of emotions do appear during the instruction and what is their source.
The qualitative research was aimed to find out what emotions do appear during the inquiry-based and acceptance-based learning of the pupils of the secondary level of the basic school (ISCED 2). This aim results from the assumption that the pupil experiences the acceptance-based instruction differently (during which they acquires new knowledge most of the time passively) and inquiry-based instruction (during which is the pupil activated to acquire new knowledge by his/her own activity and problem solving).
For the needs of clearly focused research and possible receiving of concrete answers were the questions formulated as following:

- Which emotions does the pupil experience during the acquiring of the new knowledge related to acceptance-based instruction and inquiry-based instruction?
- Which emotions experienced by pupils in acceptance-based instruction and inquiry-based instruction are

different?
• Are the emotional devices in acceptance-based instruction and inquiry-based instruction different?

THE PREPARATION OF THE RESEARCH, THE SAMPLE OF THE RESEARCH, THE DESCRIPTION OF THE METHODS USED AND THE PROCESS OF THE RESEARCH'S EXECUTION

For the needs of execution of the research it was needed to create a set of different emotions that are typical for a human's behaviour. For this purpose the literature sources that deal with emotions from different point of views were used, i.a. the works of M. Nakonečný (2000, p. 16), I. Stuchlíková (2002, p. 120) or V. E. Fernandes (2004) can be mentioned. Concurrently with the use of information sources, there was an investigation on the sample of 12 teachers which ensured the reflexion of educational practice. The teachers were asked by a form of questionnaire with opened questions to write down emotions that they observe among the pupils during the instruction. There was given sufficient time to the teachers (5 days exactly) to think through the questions which eliminated the stress related to the quickly answered questions as well.
The results are written in the table number 1 where it is possible to make mutual comparisons and to observe the frequencies as well.

Emotion	Written in literature	Frequency in teacher's answers	Emotion	Written in literature	Frequency in teacher's answers
satisfaction	yes	12	enthusiasm	yes	6
gratitude	yes	8	affection	yes	0
shame	yes	7	love	yes	1
courage	yes	4	appreciation	yes	0
joy	yes	12	bitterness	yes	5
anger	yes	5	fear	yes	12
disgust	yes	6	fulfilment	yes	4
calmness	yes	8	astonishment	yes	3
trust	yes	6	boredom	yes	12
reconciliation	yes	2	guilt	yes	4
hate	yes	6	jealousy	yes	5
pride	yes	4	disappointment	yes	8
anger	yes	5	welfare	yes	0
amusement	yes	2	hope	yes	7
admiration	yes	6	contempt	yes	2
relief	yes	8	wrath	yes	12
sadness	yes	12	hopelessness	yes	7
expectation	yes	3	nervousness	yes	10
devotion	yes	4	panic	yes	7
amazement	yes	8	happiness	yes	2

Table number 1: a set of emotions occurring during the instruction

Characteristics of the teachers: the teachers were between 29 to 38 years old that means that the younger teachers were asked. There were 7 women and 5 men. All the teachers were certificated and they teach the following subjects: natural science, technical education, Czech language, geography, mathematics, physics, chemistry, IT and German language – these were the subjects covered the research. The teachers teach also some other subjects but there was no investigation performed and therefore are they not mentioned. The teachers teach at the secondary level of the basic school (ISCED 2).
In the table number 1 is mentioned a set of different emotions and it proves their occurrence among the pupils of the secondary level of the basic schools (ISCED 2). It is obvious that the teachers indicated the occurrence of the emotions in different degree which results in different frequency of them. However, the results are also influenced by the fact that the teachers were on purpose given no other choices.
By this research it was investigatorily found out not only which emotions do appear among the pupils during instruction according to the teachers, but mainly also which emotions the teachers are aware of. From the performed investigation arises the fact that teachers are aware of the fact that the pupils experience some emotions during the instruction. However, this finding does not answer our research questions – what emotions does the pupil experience during different kinds of instruction and what is their source?
In order to answer the beforementioned questions it was needed to continue with empirical exploration. The next phase was therefore consisted of interviews and the direct observation that was performed according to the

following plan.
The observation was performed during the instruction of the already mentioned 12 teachers that work at total 8 schools in the Olomouc Region. The instruction was always led by one teacher. However, the problem was in penetration into the depth of the selected problem area, the indication of problems and interception of the possible contexts. There was considered a possibility of recording a video and on the base of its playback afterwards to perform the identification of emotions experienced by the pupils. Nevertheless, it would be necessary to set a few cameras which can lead to distraction and the instruction in which the investigation was to be performed would differ from the instruction in a normal situation. As the main obstacle appeared to be a problem with the approval for recording the instruction from the legal representatives of the pupils. They were asked to agree with the recording for the purpose of the research and few of them did not approve it, or have not responded at all. For that reason the direct observation was used during which the identification of emotions took place on the basis of the observed emotional indicators. For this research was designated time in length of 12 months which enabled to perform observation in series, always by the same three observers. It was possible to capture emotions of the pupils more precisely and to compare the results of the observation not to the aim of demarcation of objective conclusions, but to create a source of knowledge for exploring the problems.
The observers were informed about the emotions and their characteristics and expressions, about the emotional indicators and also about the ways of recording them. For that purpose there were designed and created record sheets to enable synoptic, fast and reliable capture of the pupils' emotions.
There are described 40 kinds of emotions in the abovementioned table; their number, however, makes it difficult the further investigation. A lot of emotions is very hard to indicate, even more in conditions of the education, therefore it was desirable to perform their categorization and to work with the overarching emotions later on. The categorization of emotions was a subject of research of a number of authors such as J. R. Averill (1975) who, on the basis of clusters analysis, extracted six basic categories: love, joy, amazement, anger, sadness and fear. This classification is used for the needs of further investigation.
The research was taking part in two lines: "acceptance-based" and "inquiry-based". In the first one, the "acceptance-based" line, there was performed an observation on the 6 basic schools that are, because of the anonymity that helps to the objectiveness of the investigation, marked as A, B, C, D, E and F. Schools B, D and E were established by the villages (local authorities) and schools A, C and F were established by the cities (city authorities, city hall). In the second one, the "inquiry-based" line, there was performed an observation on another 6 schools that were for the same beforementioned reason marked as G, H, CH, I, J and K. Schools CH, J, K were established by villages (local authorities) and schools G, H, I were established by the cities (city authorities, city hall).
It was desirable to influence the conditions in which the investigation will take place so that we acquire information from both completely different kinds of instruction, i.a. acceptance-based one and inquiry-based one. There were interviews made with the teachers and the lessons of specific characteristics were selected on purpose to be divided into one of the two given categories. During the interview the teachers were given relatively detailed and specific information and characteristics of the inquiry-based and acceptance-based instruction because both the terms were not fully understood to all of the participants, however, their content was. After the complete understanding of all of the terms of acceptance-based and inquiry-based instruction there were performed observations that were aimed to check the correctness of the understanding of the given terms. It was confirmed that the teachers do understand the difference and on this basis were chosen the lessons for the observation itself in amount of 6+6.
The observers have been educated also in pedagogical psychology which was a good basis, however, they were instructed about what and how they should observe. They were introduced to the observation sheets that were supposed to help them record the results of observation. For one observer there were 6 – 9 pupils depending on the class abundance.
The participating observation was chosen for the purpose of the research. Pupils and teachers were not informed about the real subject of observation so they were not trying to affect or to alter their behaviour. Because there was used the unmasked observation the observers had been present in the lessons of a given subject in a given class already one lesson before their observation so that the pupils and teachers weren't considering the observer as a completely new element.
The aim of the observers was to capture the outside emotional expressions of the pupils, either oral (speech) or mimic and pantomimic in accordance to the activities that were happening during the instruction.

THE RESEARCH FINDINGS

1) The first research line – the "acceptance-based"

The expression of love was captured only once and it was related to a relationship among the pupils. The pupils expressed joy when the teacher said that she wouldn't examine that day or that the pupil could go to the interactive board to perform a task. The joy also appeared when pupils were achieving excellent results during the written or oral examination. The joy was also noticed from a beautifully drawn picture that the pupils had to redraw from the book. The joy was obvious not only during the evaluation by marks but also during the praise by the teacher when

it was not marked. The amazement was captured during notification that the teacher would not examine that day. The anger was noticed when writing an unexpected test and when the teacher warned a pupil who was not making any notes in his notebook. Furthermore, it was also noticed in connection with the reading when the pupil wanted not to read aloud in front of all classmates. The sadness was most of the time connected to negative evaluation of pupils. The fear was indicated in connection to going back home after getting a bad mark. Moreover, it also appeared when the teacher said that the pupils will be given next lesson a summary test because of their indiscipline.
The results of observation in accordance to the acceptance-based instruction show that the emotions expressed by the pupils are mostly not related to the content of education. There was an obvious tendency from the side of teachers to supress those emotional expressions from the side of pupils.

2) The second research line – the "inquiry-based"
The expression of love was indicated by a pupil who was displaying deep personal interest in the execution of the experiments in physics. The joy appeared mostly during the solving of the tasks that represented an obstacle the pupils had to overcome. It was also indicated in the relation to the positive evaluation from the teacher's side. As expected, the joy also appeared in connection to rewards – those were e.g. the feeding of a crayfish or showing an experiment to the whole class. The amazement appeared during the description of the phenomena which the pupils were not familiar with and facts that were related to the pupils' lives. During the inquiry-based activities there also appeared the "Eureka effect" – mostly in the situations when the pupil was thinking about a problem and solved it. The anger was clear in cases when the pupils were solving a certain task and they were not able to find the solution for some time. It also appeared in a moment of realizing that they were trying to solve the problem in a wrong way. If they were not able to find the solution for a long time and the situation seemed to be hopeless, the sadness appeared instead.
The fear was obvious in the cases of pupils who thought that the tasks they were supposed to solve were unmanageable or manageable but with lots of difficulties.
It is possible to notice that in case of inquiry-based instruction the emotions are more connected to the curriculum. The emotions appear to be consequences of the learning activities.

CONCLUSION

By the qualitative investigation, it was possible to find out that the emotions do accompany acceptance-based instruction as well as the inquiry-based one. They appear to be a natural part of instruction. In both types of instruction it was possible to encounter all of the investigated emotions – love, joy, amazement, anger, sadness and fear. It is remarkable that the emotions had in different kinds of instruction different sources that showed mutual elements.
In the acceptance-based instruction, it was obvious that emotions are caused mostly by the subjects standing outside the education. On the other hand, in the inquiry-based instruction it was characteristic that emotions are closely related to subject of education which could influence positively more permanent memorizing of the new knowledge and adaptation of the new skills and attitudes; maybe it could also help the linking with the knowledge, skills and attitudes that had already been acquired. This assumption that has arisen from the performed research needs, however, further investigation.
Another finding was the fact that teachers tend to supress the emotions of the pupils and sometimes even punish the pupils for them. These tendencies occurred within inquiry-based instruction less, however, there was the suppression of emotions from the side of teachers noticed as well. This activity appears to be in conflict with the published knowledge by a number of authors about the fact that emotions influence positively the permanence of acquired knowledge. It seems that the teachers are in fields of managing the pupils' emotions not fully competent.

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Roles Of Mentoring From Dual Perspectives: A Mutually Beneficial Experience

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ABSTRACT
Mentoring has a longstanding history and is being hailed as an important strategy for teacher professional development. Anderson and Shannon (1988) mentoring model summarised three major components on the roles of mentoring. In this qualitative study, we focused on two mentoring relationship, which are as a 'Care Giver' and a 'Nurturer'. We then explored these components from two different perspectives, the senior mentors and the junior mentors. Both groups were tasked to mentor teacher candidates from the graduate initial teacher education programme known as the Master of Teaching or MTeach, offered at a university in Brunei Darussalam. The three senior mentors were categorised as the more experienced while the four junior mentors were the less experienced and categorised as new graduates from the MTeach programme. Data were collected from an open-ended survey aimed in obtaining their views and experience in their journey as an MTeach mentor. The findings revealed that both groups gained mutual benefits from the mentoring despite the differences in their experiences, such as both were able to have time to reflect on quality of teaching and learning, gained a new enthusiasm for teaching, learnt new ideas and gained new perspectives on teaching and learning.

Keywords: Mentoring Benefits, Perspectives, Graduates

INTRODUCTION

According to Fletcher and Mullen (2012), mentoring in educational contexts has become a rapidly growing field of practice and study around the globe. Mentoring is one of the major aspects of teacher education programmes, often a collaborative effort between university supervisors, teacher educators, school administrators, supervising teachers, and pre-service teachers (He, 2010; Schwille, 2008) to prepare better teachers for the increasingly challenging classroom environment. This is because beginning teachers face numerous challenges during the first few years of teaching, including student motivation, planning and implementation of curriculum, instruction, and various other roles and responsibilities (Roehrig, Pressley & Talotta, 2002). This complexity, according to Roehrig and colleagues (2007) coupled with the increasing pressure can place a significant amount of stress on the new teacher adversely impact his or her effectiveness in the classroom.

DEFINING MENTORING

Halai (2006) stated that there is a lack of consensus on one single or standard definition of mentoring. However, according to a review of a large database on mentoring articles, Dominguez (2012) found that most used either Kram's (1985) definition or that proposed by Levinson et al. (1978) and that of Crisp and Cruz (2009). They all found more than 50 definitions of mentoring when examining in particular, the social science literature.

The literature on mentoring identified a number of key roles about mentors, such as serving as a guide, offering support (Ganser, 1996), and acting as adviser, trainer, or partner (Jones, 2001), as well as being a nurturer to the mentee. Halai (2006) defined mentoring as a nurturing relationship that is based on mutual trust that leads to the development and professional growth of both the mentor and the mentee.

Mentoring in Education

The internship field experience plays a significant role in shaping the beliefs and knowledge of the prospective teacher (Borko et al., 1992; Eisenhart et al., 1993, as cited in Borko & Mayfield, 1995). The field experience is often considered the culminating capstone event for a teacher education programme, together with a critical milestone towards becoming an effective teacher (McIntyre et al., 1996). Furthermore, Ehrich et al. (2004) found that mentoring yields positive outcomes including learning, personal growth, and development in professional

abilities. In another meta-analysis of 426 journal articles on mentoring, Dominguez (2012) identified 34 different positive mentor outcomes and 49 mentee benefits.

The roles and functions on what mentors do are central to understanding relationship between mentor and mentee. Analyses of mentoring activities have appeared with increasing frequency in the literature on mentoring (Wildman et al., 1992). Likewise, more attention is being paid to the benefits of mentoring for the beginning teacher, the mentor teacher, and others (Odell & Ferraro, 1992).

Halai (2006) claimed that researchers and scholars in the field of mentoring agree that the primary role of the mentor is to provide guidance and emotional support to the novice teacher who is in need of significant support. While Yost (2002) described that the mentor teacher's role are effective expert, guide, and support system for the novice teacher. Each of these roles ultimately has an impact on student learning. Their primary responsibility is not to evaluate student teachers' teaching performance for grading purposes, but rather they are responsible for assisting, guiding, and providing constructive feedback on teaching practices and most importantly be a colleague of the student teacher and demonstrate collegial behaviour throughout the field experience (Kiraz & Yildirim, 2007).

Anderson and Shannon's (1988) Model of Mentoring

According to Anderson and Shannon (1988), mentoring programmes must be grounded on a clear and strong conceptual foundation. Such a foundation includes a carefully articulated approach to mentoring which would include delineation of a definition of the mentoring relationship, the essential functions of the mentor role, the activities through which selected mentoring functions will be expressed, and the dispositions that mentors must exhibit if they are to carry out requisite mentoring functions and activities. They further explained that basic to mentoring is a relationship in which the mentee views the mentor as a role model and the mentor nurtures and cares for the mentee. Entailed in the mentoring relationship are five mentoring functions and related behaviours that are carried out within various mentoring activities which are teaching, sponsoring, encouraging, counseling, and befriending (Anderson & Shannon, 1988).

In this study we focused on two mentoring relationship, which are as a 'Care Giver' and a 'Nurturer'. Anderson and Shannon (1988) stated that nurturing implies a developmental process in which a nurturer is able to recognise the ability, experience and psychological maturity of the person being nurtured and can provide appropriate growth-producing activities. Furthermore, they explained that mentoring must involve an ongoing, caring relationship. The kind of relationship that advocates in mentoring is similar to that of a good substitute parent to an adult child.

Issues on Mentoring

Russell and Russell (2011) stated that various studies have been conducted in regards to mentoring relationships, such as issues focused on higher education (Campbell & Campbell, 2002; Harris, 2003), people of colour and women (Enomoto et al., 2003; Mertz & Pfleeger, 2002; Wilcox, 2002), parents (Avani, 2002), school-age children (Watts, Erevelles, & King, 2003), and administrators and educators (Martin, 2002; Tauer, 1998; Zellner & Erlandson, 2002). Yet there is still a lack of research that documents the effects of various mentoring programme features for teachers with varying levels of experience. Typically, university teacher education programmes select veteran or more experienced teachers to serve as cooperating teachers and mentors based on factors that may include prior collaboration, credentials, and teacher availability or willingness to work with an intern (Russell & Russell, 2011). However, many researchers claimed that experience based on the time spent in teaching is not the most important factor for expertise (Axelson, 1999; Kani et al., 2014; Sweietzer & King, 2004). In addition, Kiraz and Yildirim, (2007) also emphasised that 'expert' is how the way knowledge is organised and demonstrated, rather than simply categorising experts by the numbers of years accrued in teaching.

Senior Mentor and Junior Mentor

According to Kiraz and Yildirim, (2007), it is a commonly held belief that the length of service in the teaching profession is the basis for determining one's expertise in supervision. However, they also argued that teachers with many years in teaching undoubtedly have more practical experience than do novices or beginning teachers, but experience is not the most critical factor. The most important according to them is the way professional knowledge is organised and used. Moreover, Kiraz and Yildirim, (2007) investigated how trainee teachers perceived their supervising teachers' supervisory competency. Accordingly they indicated that:

1) Less experienced supervising teachers demonstrated a higher competency in supervision compared to their more experienced colleagues. Especially in the area of 'Instructional Planning and Competency in Reflection (IPCR)', student teachers perceived their supervising teachers as being the least effective.

Results showed that even an inexperienced teacher, with 1 to 4 years of experience in teaching, might supervise successfully.

2) Age may be another significant factor in favour of the beginning teachers since the teacher candidates may feel more comfortable in communicating, sharing ideas, discussing, receiving feedback, and reflecting on their teaching with a person whose age is closer to theirs.
3) Beginning teachers' professional knowledge and their college background are still considered fresh and their antecedents may enable them to understand what the teacher candidates need and are attempting to implement.
4) It is also possible that beginning teachers' own experiences (positive or negative) during their student teaching practicum may cause an improvement in their competency in supervising their future colleagues. Thus, younger supervising teachers having teaching experience between 1 to 9 years may perceive the teacher candidate as a colleague rather than as an inexperienced person or apprentice.
5) Respondents concluded that some experienced teachers demonstrated signs of burnout and limit their conversations with the teacher candidates in time as well as in content. Their perception was that a professional can find his/her way when entering the profession and they did not value the practicum as an opportunity for professional development for the novice.

From the above study conducted by Kiraz and Yildirim, (2007), it should be noted that even less experienced teachers (junior) might have an immense potential to supervise and mentor. However to extend the research, it will be interesting to investigate and study how the junior mentor and senior mentor view their roles as mentor, and the impact of becoming a mentor in their professional development.

THE BRUNEIAN TEACHER EDUCATION PROGRAMME

In 2009, Brunei Darussalam's sole provider of English medium teacher education, the Sultan Hassanal Bolkiah Institute of Education (SHBIE) became a Graduate School. All the undergraduate initial teacher education programmes formerly provided by SHBIE were replaced by a graduate provision through a Master of Teaching (MTeach) degree programme. Subsequently, the MTeach became the licensing programme to the teaching profession in Brunei Darussalam. And the MTeach is a professional qualification in initial teacher education, at a Master level. There are five areas of specialisation in the MTeach programme, namely early childhood and care, primary education, secondary education, vocational and technical education, and higher education (Jaidin, Shahrill & Jawawi, 2015; Shahrill, Jaidin, Salleh & Jawawi, 2014; Shahrill, Jaidin, Jawawi et al., 2014).

Among the key features of the MTeach programme are drawing upon and integrating evidence-based best practices into their teaching and practical experience in schools and institutions in the professional practice and seminar (referred to as PPS) modules. In the current PPS arrangement, we have increased the number of days in schools per week (to four consecutive days a week) and the teacher candidates are mentored by school or institution mentors and academic specialists from SHBIE. Given in Figure 1 below are the roles and responsibilities of an MTeach school or institution mentors, taken from the MTeach PPS handbook provided by SHBIE.

Figure 1. The roles and responsibilities of the MTeach school/institution mentors

The MTeach School/Institution Mentors will work in consultation with the MTeach Subject Specialists and the MTeach Clinical Specialists to devise a programme that meets the needs of the MTeach Teacher Candidate prior to and during the placement block. MTeach School/Institution Mentors will:

- Support, guide and monitor the MTeach Teacher Candidate's transition to the role of professional teacher;
- Engage with MTeach Teacher Candidates' teaching and provide verbal/written feedback with priorities for future action;
- Facilitate conditions for MTeach Teacher Candidates to fulfill SHBIE task requirements;
- Provide formative assessment reports and discuss these with the MTeach Subject Specialist and the MTeach Teacher Candidate to assist in developing further goals for learning to teach;
- Submit the summative report indicating a mark and a grade to the MTeach Subject Specialist at the end of the MTeach Teacher Candidate's teaching placement.

METHODOLOGY

In this qualitative study, we explored mentor teachers' roles as a 'Care Giver' and a 'Nurturer' from two different perspectives, the senior mentors and the junior mentors. We also investigated the impact of becoming mentor towards the their professional development. Both groups had been tasked to mentor teacher candidates in the MTeach programme.

Data Collection and Participants

An open-ended online survey was given to obtain the mentors' views and to describe their experience in their journey as an MTeach mentor. In total, seven MTeach mentors responded to the survey. The three senior mentors who were classified as the more experienced individuals, and the four junior mentors, classified as the less experienced who recently graduated from the MTeach programme. Table 1 depicts the details gathered from the seven mentors. All seven mentors hold a master's degree qualification. The three mentors from the secondary education areas are teachers based in the secondary schools whereas the remaining four mentors are from the vocational and technical institutions. And the subject area backgrounds for each respective mentor ranged from teaching mathematics, engineering, business, biology and physical education.

Table 1. Details of the MTeach mentors

Mentors	MTeach Areas	Mentoring Experience
SM1	Sec Ed	Yes – Experienced Teacher
SM2	Sec Ed	Yes – Experienced Teacher
SM3	VTE	Yes – Experienced Teacher
JM1	Sec Ed	No – MTeach graduate
JM2	VTE	No – MTeach graduate
JM3	VTE	No – MTeach graduate
JM4	VTE	No – MTeach graduate

Notes:
SM = Senior Mentor; JM = Junior Mentor; Sec Ed = Secondary Education; VTE = Vocational and Technical Education.

RESULTS AND DISCUSSIONS

The procedures of analyses for the collected surveys involved reading all the mentors' comments from the open-ended online surveys and to search for common themes and overall patterns. During the analyses, we found that the participants mostly elicit their role of mentoring as a 'Nurturer' and as a 'Care Giver', which is parallel and concurring to the definition stated by Anderson and Shannon (1988). Table 2 below captures the responses from the participating MTeach mentors and linking them to the mentoring relationships.

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Table 2. Linking the MTeach mentors' responses to the relationships

MTeach Mentors	Care Giver	Nurturer
SM1	▪ The mentees in my school have access to all my lessons. ▪ Sometimes mentees are not sure about the content and why I do things the way I do. This gives me the opportunity to explain what learning means to me. ▪ Hope it has helped them to prepare better for their teaching career. ▪ I feel I have high expectations for them which I think is the right thing to do. ▪ Although I am not there to observe them, I still ask for feedback about the lesson that I miss.	▪ Helping student teachers develop their conceptions of teaching. ▪ Providing a platform where both mentor and student teachers can genuinely collaborate to design, implement and review lessons. ▪ Discussing content and developing lessons with the mentees.
SM2	▪ As we were walking, we also talked about teaching strategies and management of students. ▪ Nowadays, being a teacher is not just teaching but be able to write letters, conduct assemblies, conduct meetings, conduct functions, work in a group, manage students with discipline problem, promote health, etc. ▪ Give advices and make adjustments where necessary.	▪ To expose the mentees as much as possible to the daily teaching lives of teachers. ▪ I tried to bring them wherever I go and include them in whatever I do most of the time.
SM3	▪ To share the teaching and learning experience with them. ▪ To guide them my (best) teaching practice ever.	▪ Made the mentee familiarize with the school and office environment.
JM1	▪ Guiding my mentee in their teaching experience and becoming part of school structure. ▪ It is also my responsibilities to equip my mentee with the skills needed for their future teaching career.	
JM2	▪ Guide/help my mentee to develop professionally as an educator. ▪ Give some opinions/advices, which I think were helpful.	
JM3	▪ I guide her throughout and I tend to tell her what to do most of the time.	
JM4	▪ To provide my mentee to have sufficient materials for teaching and helping him in anyway necessary in terms of his research.	▪ I act as a facilitator who encourages my mentee in any research required.

Their role in mentoring as a 'Nurturer' and as a 'Care Giver' generated several benefits towards their teaching. In this study, the senior mentors as well as the junior mentors experienced the same benefits from mentoring despite their differences in experience. The benefits listed according to common themes are given below.

Ability to Reflect on the Quality of Teaching and Learning

The role of mentor as a 'Nurturer' and as a 'Care Giver' required the mentors to observe their mentees teaching their lessons. Within the MTeach programme offered by the university, both the junior and senior mentors observed their mentee teaching their lessons during the 14-week semester school/institution placement.

One of the benefits for the mentors in observing the MTeach teacher candidates (or the mentees) teaching is to note the mistakes they sometimes made which can provide a reminder about what to avoid when facing the same situation in subsequent teaching observations. As SM3 stated "*The mentoring process in a way helped me to reflect my way of teaching*. *It enabled me to see my strengths and weaknesses as a teacher*". JM1 explained "*It is part of learning experience to observe my mentees when they are teaching and to see how students responded to the lesson. In fact, it has helped me to reflect what works and what doesn't depending on the type of students and topics to be delivered*". JM2 mentioned regarding class observation and mentor's reflection "*I cannot judge by*

how much but I do believe that by observing each other's teaching lesson, we did learn some ways of teaching a particular topic or ways of managing time and the class". Another view that JM3 stated in the survey was that "*when I observe her, it's like observing me, seeing myself from a different perspective, having a closer look at what the students were really doing in the classroom. Reflecting on my own teaching… when she follows almost everything I do (in the classes she observed me), at some point, I felt that I would be criticizing myself when I criticize her*".

Naturally, as a mentor, they will take the lead in the feedback in order to clarify their own ideas about good teaching. Post lesson discussions allow both mentor and mentee to think deeply about the practice of teaching. These discussions allowed them time to think about the processes of teaching, to provide great opportunities for mentors to reflect on the key elements of quality teaching and to start thinking about other alternative pedagogical practices.

Obtainment of New Enthusiasm for Teaching

Many of the participants in this study, both the junior and senior mentors, reported that the presence of an MTeach student in their classroom provided them with a powerful reason to showcase some of their best resources and teaching strategies. For example SM2 stated that "*I tried to bring them wherever I go and include them in whatever I do most of the time, but it depends on how much they want to join along and this depends on their attitude… encouraged them to join me where possible and will ask for their help where necessary, mostly 'hands-on', rather than sitting down and explaining what a teacher should do*". SM3 explained that "*in the beginning of the lesson, as a mentor I prepared the teaching and learning resources for my mentee's reference so that my mentee aware of the standard of my resources*".

The junior mentors experienced the same feeling too, for example JM1 stated "*I have definitely shared my passion to teach PE among my mentees, also to show the level of commitment I have put into being a teacher and to cope with everyday challenges. This is something that I hope my mentees could learn from and to gain the confidence to teach once they have completed their MTeach course*". While JM2 explained the same feeling when mentoring "*I make sure that I am a good role model to my mentee although I have still got a lot to improve on. If my mentee ask for help/advices, I will give the best possible solutions/suggestions to her*".

Hence both mentors, junior and senior, gained a new enthusiasm for teaching as this may have resulted from their sense of responsibility as a mentor and trying their best to fulfill their role as a 'Nurturer' and as a 'Care Giver'.

Acquirement of New Ideas on Teaching

Interestingly, the broader view of the MTeach programme led all mentors in this study to examine their own teaching strategies and principles. All the senior mentors, instead of, perhaps, being frustrated in working with the beginning teachers, their awareness to learnt new ideas of good teaching from the mentee was heightened in comparison to the junior mentors. "*It is really a two-way learning… I told them as much what I knew and I also learned from them*" (SM2). She further stated, "*I also learned new tips and techniques from them*". Meanwhile, SM3 experienced similar situation where she said "*as a matter of fact, I acquired new teaching practice from my mentee to perhaps further improve my teaching skills*". In addition, SM1 felt that the mentoring component in the MTeach programme had benefit him because he was able to share and learn new ideas, not just from the mentee but from the university's Subject Specialist and Clinical Specialist as well. SM1 further mentioned, "*I like to expand my knowledge. It's important to have a specialist who knows what he is doing and always in-touch with the theory and practice…. with the subject and clinical specialist, my relationship with them is quite special. I look up to him because he is at the forefront of the knowledge in teaching and in the subject area*".

In contrast to the junior mentors, only one out of four mentioned about receiving new ideas "*It does help me to receive new ways or ideas that I never thought of. One example is the way of teaching complex number*" (JM1). One of the main reasons for this situation may be because all the junior mentors were recent graduates from the MTeach programme. Hence they were aware of the latest educational theory during their university studies. They also probably had undergone various discussions and numerous examples regarding the latest issues on teaching and learning.

Developed New Perspectives on Teaching and Learning

Sitting at the back of the classroom and observing lessons rather than actual act of teaching allows the opportunity to think more deeply about the lessons. Additionally, it provides the chance to gain greater insight into how students learn and behave. For example, JM4 stated, "*I got a chance to see the improvements, limitations, pros and cons of this research first hand. This will provide me additional knowledge in my teaching as well*" and JM1 also stated, "*It is part of learning experience to observe my mentees when they are teaching and to see how students*

responded to the lesson. In fact, it has helped me to reflect what works and what doesn't depending on the type of students and topics to be delivered". Subsequently, SM1 agreed that mentoring helped him to progress as "*It helps me to make explicit what is hitherto tacit in terms of my professional knowledge*". Hence the mentors benefit from their roles as a mentor by observing their mentees' teaching in their respective classroom. Consequently the mentor starts to see the students from a different perspective, they may develop more time to think about the problems that the students are having, any learning misconceptions encountered by the students, and may also recognise how to help the students to learn more effectively.

CONCLUSIONS

Mentoring is not a one-way relationship. Effective mentoring can also benefit the mentee as well as the mentors. In this study, the findings revealed that the role of mentoring as a 'Nurturer' and as a 'Care Giver' could expand the knowledge and develop the mentor's skills in teaching. Despite the differences in experience, both senior mentors and junior mentors were able to fulfill their roles as a 'Nurturer' and as a 'Care Giver' towards their own mentee. As a result, both mentors received mutually beneficial experiences such as able to have time to reflect on quality of teaching and learning, gained a new enthusiasm for teaching, learnt new ideas, and also gained new perspectives on teaching and learning. Essentially, the mentors derived satisfaction from supporting their mentees' professional development and expectations in seeing them succeed in their future careers as beginning teachers. In other words, in concurring with Reed et al. (2002), mentoring provides mutually beneficial experience to both the mentor and the mentee, and there is a sense of satisfaction as the mentor watches the mentee grow professionally.

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Rural Parents Perceptions About School Meetings

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ABSTRACT
This article presents the results of an exploratory qualitative study conducted at a school in San Clemente, VII Region of Chile. Its purposes were to describe and understand parents' perceptions about school meetings. The methodological design was a comprehensive interpretative approach. The data collection techniques were semi-structured interviews with rural mothers, constituting a total sample of eight subjects, defined through the snowball sampling technique. The semantic structural analysis model was used, as it intends to describe and interpret the deeper meaning of the interviewees' discourses. Finally, there emerged a generalized view of the actors, which describes the elements of the meeting's disposition by the parents, which contributes to the construction of the family-school partnership.

Keywords: parent meetings, family-school partnership, parents participation

INTRODUCTION

The foundations of the school-family relationship have been considered as a given and obvious matter. It is a feature that still lingers as a general attribute, the dominant pedagogical discourse, obscuring diversities of viewpoints about the expected home-school alliance (Kainz & Aikens, 2007). This is particularly relevant when both the school and family face deep cultural changes, with mutual accusations of abandoning their duties (Corea, C & Lewkowics, I, 1999; Gubbins 2001, 2002; Abramowski, 2011; Precht, 2015).

Traditionally, parents were invited to entrust their children to the school, getting involved with school life to preserve equality among students (Dubet, 2004). As Narodowski (2008) pointed out, during modernity, professional educators replaced "natural" educators (parents), removing children from their family life (Pineau 2005; Narodowski, 2008). Experts understand the knowledge and culture from a hegemony and monopoly perspective, with little or no space for minority cultural identities. Thus, they were expected to perform their duty to civilize children in the ways of the State.

The school of the modern era has also been built from an urban matrix. The concept of time and school space, and their understanding of knowledge, rules, and ways of what is normal and what is deviant, is considered from the city perspective (Foster, 2011; Llinas, 2011). Rurality has little to no room at school, unless it is understood from a folkloric perspective.

However, the emergence of other rationales (Jodar, 2007) has challenged the school and brought into question its cultural monopoly—not only the disenchantment of the world but the actual school overcrowding and technological changes that involve changes in the organization of power (Dubet, 2004). Deinstitutionalization of society affects not only the school but also the family. Given the blurring of the traditional foundations, teachers and parents must invent delicate and transitional forms to regulate relations between the school and the family. The displacement of part of this family-school partnership involves, among other things, familiarization of school links with teachers, who see themselves as defendants of compensatory parenting (Abramoski, 2011). Another form of school social relations are the boundaries of the school permeating the family (Poggi, 2002).

In Chile, parent-teacher meetings are often seen by educators as a necessary means to establish a proper relationship with students' families. These meetings usually occur on a monthly basis and are held during evening hours, with a duration of two to three hours. Studying the perceptions that rural mothers have about parents allows a better understanding of the type of relationship they establish with the school. So our question is: what are rural parents' perceptions about parents meetings?

THE STUDY

The aim of this research is first to approach the phenomenon—in this case, rural mothers' perceptions of parent-teacher meetings in the San Clemente county in Maule Region, Chile.

To achieve this purpose, we interviewed parents of fourth graders at a rural school. All were women; even when we sought fathers, none were available for this study. Most mothers reported fathers did not assist to parents-teacher meetings.

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To reach the sample, we used the snowball sampling technique. Initial voluntary informants pointed out other informants until the discourse saturation was reached (Faugier & Sargeant, 1997; Atkinson & Flint, 2001). That created a sample comprised of eight women

Data were collected with semi-structured interviews (Horton & Struyven, 2004). The interview was made in analytical categories that organized information conceptually to gather information about the parent and teacher roles during meetings, the perceived relevance of these meetings, and the organization of parent-teacher meetings.

The corpus was analyzed according to the semantic structural analysis model (Martinic, 1992, 1995, 2006). It allows one to describe and build structures' common meaning in seemingly different narratives. These structures must be stable and logically consistent.

Martinic (2006) suggested that first, the primary meaning units and their relations with one another must be identified; second, the structure surfaces use central categories. This step consists of the distribution of oppositions and associations expressed in structures that could be parallel, hierarchical, or crossed.

FINDINGS

In the speech of the interviewed mothers, we distinguished:

In a first descriptive analysis, there emerged the code of "action control" (see Figure No. 1), whose categories are condensed according to the level of interaction of the agents within them. The first type of meeting, which we will call "expository," realizes an action centered on the teacher, who according to the speech of the agents, he expressed as (we) "come to hear." That is, the content of these meetings is to share information about the school with little disposal of time to address the parents' concerns, suggestions, and interests.

"*[At meetings] parents could not comment much; we were almost only listening to the teacher*." Interviewed n° 2

A second type of meeting that emerged in the discourse of the agents is the one characterized by the term "participatory." This type of meeting is characterized by its design and structure, which in the parents' discourse, allows for more interaction between the parents and the teacher. It should be noted that this latter type of meeting does not necessarily mean a change in the knowledge economy, enabling more democratic structures, but it mostly enables the possibility of exchanges and dialogs between parents.

"*I would rate [the meeting] with a an A+, because the meetings are good. We talk, we give opinions, we parents participate a lot. We share, the teacher informs us, and it's all very good and almost every mother come to it*." Interviewed n° 5

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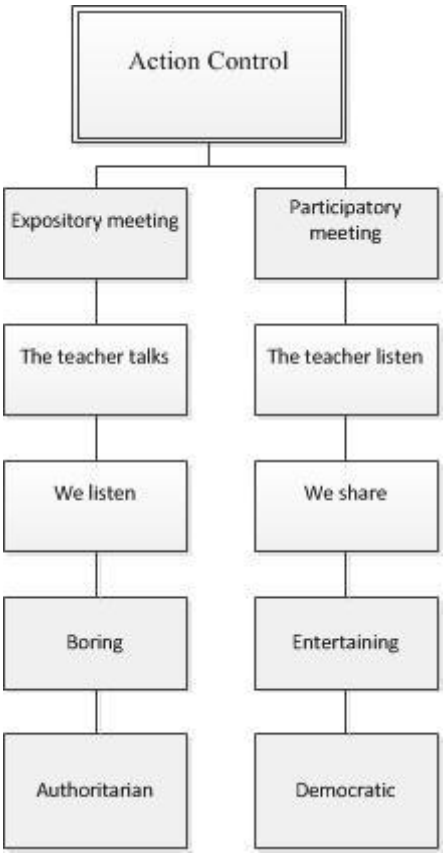

Figure No. 1: Totality: Action Control

A second code refers to the quality of the meetings, which in the discourse of the interviewees emerged as "good or bad." (see Figure No. 2). The linchpin of this category is the relevance of the topics. This relevance is in tune with issues of interest to the upbringing of the children, especially those issues that provide tools to support children's schoolwork from home.

"The parent meetings are pretty motivating because different things are done. In particular, it motivates me [to share] what we [mothers] do. The topics covered are also related to the growth of our children." Interviewed n° 4

In the discourse of those interviewed, a "good meeting" will be one that provides parents the process of turning the child into a student. Therefore, the values the teacher teaches the attendees are methodologies to support the children's studies at home. Here, parents' participation is of that of students of the teacher, allowing the parents to replicate the action of teaching at home. In addition, the "good" meeting allows parents to share their own difficulties and successes in supporting their children's schoolwork. In contrast, a "bad" meeting, whose content usually refers to complaints about the behavior of their children in the classroom, addresses problems of a particular case or other matters parents consider irrelevant

Finally, the meeting was characterized as "good" when it contributed to building a climate of cordiality between families that compose the course, giving space to parental involvement. These meetings emphasized the involvement of parents in school life, which circumscribe to work during the anniversary of the school, attend events, sew costumes, and attend meetings. The latter is considered the fundamental instance of participation and more widespread to communicate with teachers.

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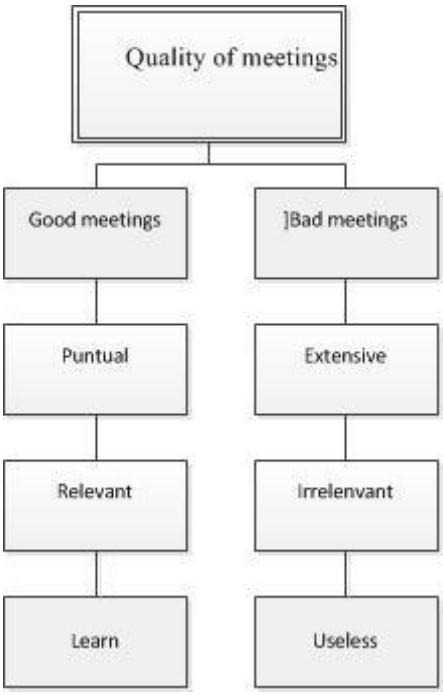

Figure No. 2: Totality. Quality of meetings.

"The teacher helps us with homework, like methodologies to approach homework . . . how to practice and reinforce the children as much as she does here, so we can do it at home. Then, there is space given to economic issues and to sharing some tea, which allows us to be more confident with the group of parents." Interviewed n° 3

Across both axes within the "quality of the meeting" and "action control," more complex relationships emerge for observing the nuances in the speech of the interviewees (see Figure No. 3). It is possible to distinguish four semantic fields, in which it is feasible to locate the distinctions made by parents.

The following figure shows these relationships:

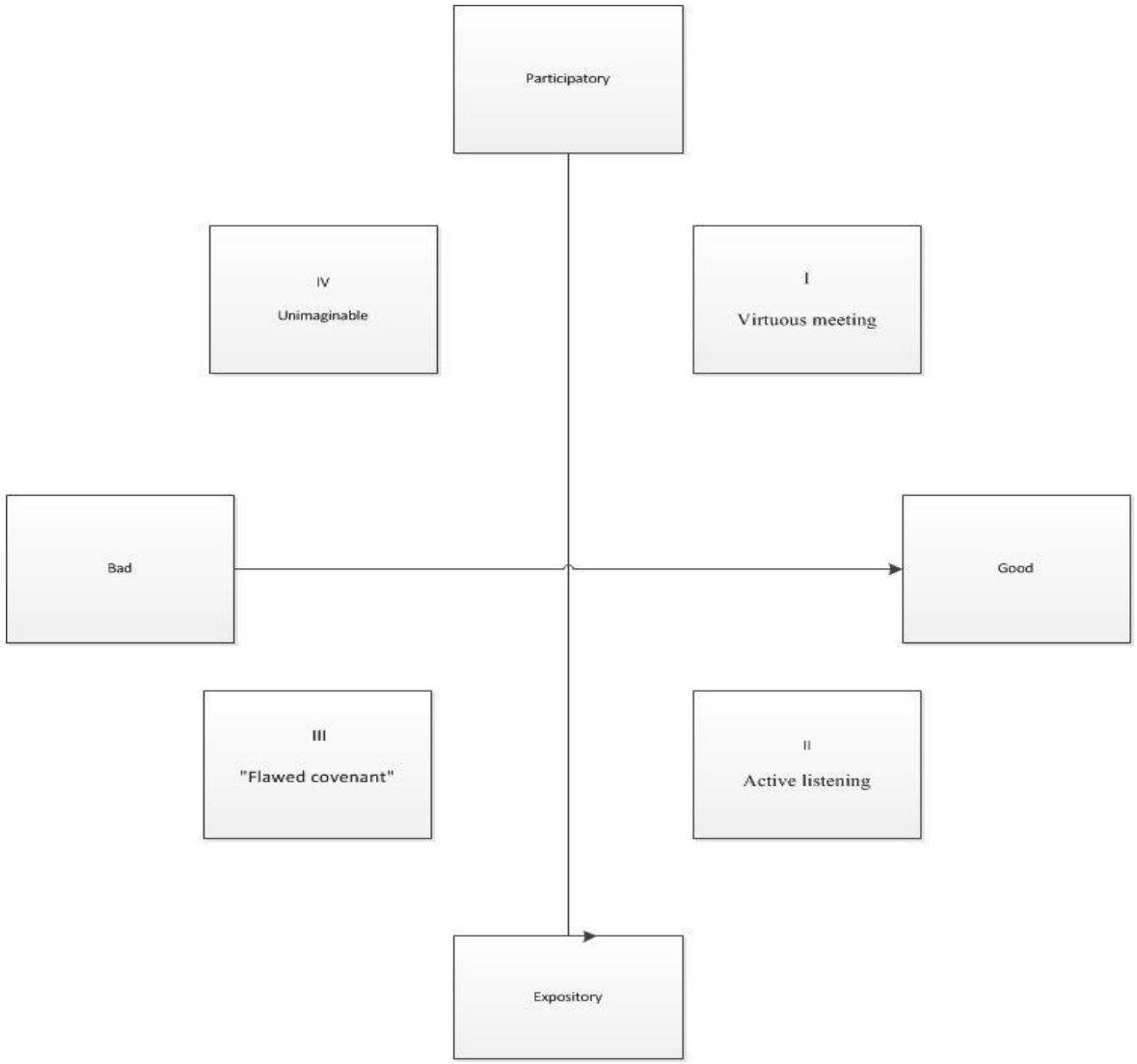

Figure No. 3: Axial Crossing (parents' perceptions of schools meetings).

These parents value that virtuous meeting (I), whose relevance is given by learning strategies to support children in their school trajectory and in which parents may actively participate. Considering the above information, we can say that according to the speech of these parents, this quadrant represents an ideal meeting: involvement of both parents and the teacher in a pleasant climate. In the opposition meeting, there is a "flawed covenant" (III) between the school and the family. This meeting is characterized by the teacher's authoritarianism, denial of the voice of the parents, and discussion of problems relating to individual cases in an instance that is supposed to be collective.

Although less appreciated, there is the meeting of "active listening" (II) in which there is little parental involvement, but the issues addressed by the teacher are recognized as relevant to the learning achievement of children.

Finally, it is interesting to note that for the parent, is not possible to think about bad meetings that are participatory.

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CONCLUSIONS

Our findings throw light toward Chilean rural parents' perceptions of school meetings and their relevance to building an alliance between the school and the family. The results support the characterization of said meetings as authoritarian and irrelevant, which tend to be a bore for parents. An idea most vividly appreciated is the use of adjectives to describe them, such as *boring*, *bad*, and *passive*. It is important to note that there also emerges a speech on valuable meetings, whose articulating words are *good*, *participatory*, and *learning*.

Perceptions that these provincial parents have about the usefulness of the school meetings relate to the participation in their kids' life as a key element.

While the interviewed mothers believe a good meeting is one in which they are allowed to participate, one must question the content of such a participation**.** Its past does not necessarily imply a more democratic structure and different knowledge economy. Participation in meetings means they are organized around active methodologies, which allow them to express opinions and be heard while learning from the teacher. There is a reproduction that is infantilizing for mothers. At the meetings, parents take the place of their child or student, sometimes even taking their child's school desk. While they can have opinions, the teacher is the one that transmits a valid, authorized, and recognized hegemonic knowledge.

Another aspect of this participation in the organization for collaboration with the school, which again, reproduces their traditional roles: Rural mothers are invited to organize classroom grooming, sewing costumes, or preparing food for school parties. This participation is understood instrumentally; their topics will be the collection of funds for the group and the organization of recreational activities. Mothers do not mostly challenge this but accept it as desirable.

The parents' purposes while attending school meetings are to seek information about their own children's performance and to have cordial relationships other parents. Relevant topics are their child's academic, social, and personal life. For them, the relevance with a meeting tells the direct relation to the fulfillment of this purpose.

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Selected Results Of An Analysis Of Opinions Of Czech And Slovenian Parents Of Elementary School Pupils In The Context Of Inclusive Education

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ABSTRACT

In our conditions, the inclusive form of education is a highly topical and discussed issue. In spite of the fact that the right of all persons to education is generally accepted, the inclusive form of education frequently raises various doubts in both the lay and professional community. Various concerns stem from inaccurate ideas of and insufficient information about successful delivery of inclusion.
The first research into this area is connected with monitoring the negative influence of segregation of children with special educational needs. Researchers in 1970s were particularly interested in the effectiveness of educational approaches to pupils with impairment. Later research projects focused on the area of attitudes to the inclusive form of education and the effectiveness of the inclusive form of education (Hájková, Strnadová; 2010).

Contemporary research studies of opinions about and attitudes to inclusive education of impaired persons focus on various participants of the educational process, i.e. teachers, pupils, parents, headteachers, counsellors, etc.

RESEARCH SURVEY

Objective, applied methods, characteristics of the research sample

In connection with the currently discussed issue of inclusive education we carried out a comparative study aimed at a comparison of the opinions of Czech and Slovenian parents of elementary school pupils. The background for our study was general psychological experience with the primary significance of parental attitudes in the formation of a child's personality; therefore we have a reason to believe that introducing the inclusive form of education will be significantly influenced by opinions of the pupils' parents.

In order to find out about the opinions of the mentioned actors involved in children's education, we performed a questionnaire survey in two groups of parents with an aim to identify the current situation concerning parents' approaches to and opinions about including impaired children in mainstream elementary schools.

The first monitored group included parents of elementary school pupils from the Olomouc Region with a total of 900 respondents, of which 711 were women. The second group included parents of Slovenian children; this group had 185 respondents, of which 140 were women. The Czech sample of parents was dominated by secondary school graduates (50.8%), the second most frequented group were university graduates (36.8%). The Slovenian sample had a similar proportion of secondary school graduates (58.4%), there were slightly fewer parents with a university degree in the Slovenian sample compared with the Czech sample (19%), a numerous group were parents who had graduated from higher professional school (13.5%). In both samples we investigated whether the family of the respondent ever had an impaired individual. This piece of data was considered significant regarding the focus of the research survey. Most Czech (85%) and Slovenian parents (79.3%) stated that there was no impaired person in their family. Similarly, most Czech parents (73%) stated they had no personal or child-mediated experience with inclusive education. Absence of this experience was reported by 52.1% of Slovenian parents.

The questionnaire method that we designed in compliance with the objective of the research consisted of 10 items aimed at relevant data about the respondents and particularly at their opinions about including impaired children in mainstream schools. The data collected were analysed and some of them were subjected to statistical processing. Summarizing these opinions about the inclusive form of education given by parents in both countries, we might conclude the following facts.

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Overview of results

The parents in the Czech and Slovenian samples differed in their opinions about **including an impaired child in a mainstream school.** Statistically significant values were observed in the assessment category of "definitely yes" and the medium category of "sometimes yes, sometimes not". Slovenian parents are significantly more supportive of the inclusive form of education, whereas Czech parents mostly chose the medium (neutral) assessment, negative answers are comparable in terms of frequency and the differences in negative responses are not statistically significant. These facts are shown in Table 1 and Graph 1.

Table 1 Opinions about including an impaired child in a mainstream school (Czech and Slovenian parents)

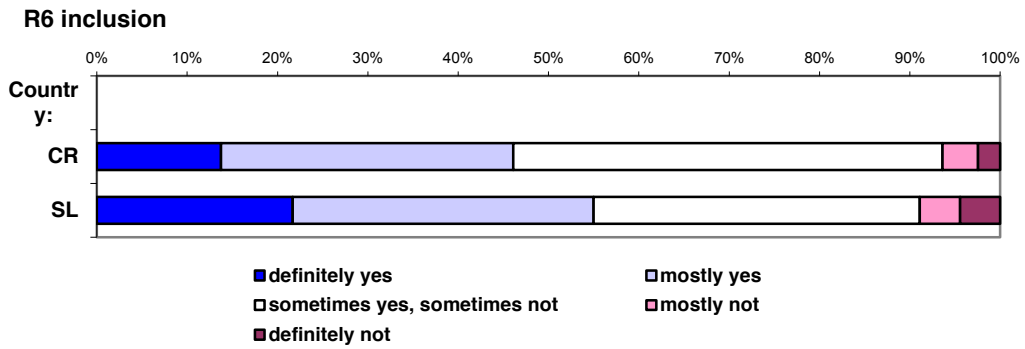
			r6inclusion					Total
			1	2	3	4	5	
country	Czech Republic	Count	123	289	425	35	22	894
		% within country	13.8%	32.3%	47.5%	3.9%	2.5%	100.0%
		% within r6inclusion	75.9%	82.8%	86.7%	81.4%	73.3%	83.2%
		Adjusted Residual	-2.7	-.3	2.8	-.3	-1.5	
	Slovenia	Count	39	60	65	8	8	180
		% within country	21.7%	33.3%	36.1%	4.4%	4.4%	100.0%
		% within r6inclusion	24.1%	17.2%	13.3%	18.6%	26.7%	16.8%
		Adjusted Residual	2.7	.3	-2.8	.3	1.5	
Total		Count	162	349	490	43	30	1074
		% within country	15.1%	32.5%	45.6%	4.0%	2.8%	100.0%
		% within r6inclusion	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	**12.764**[a]	**4**	**.012**
Likelihood Ratio	12.184	4	.016
Linear-by-Linear Association	2.849	1	.091
N of Valid cASE	1,074		

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 5.03.

Graph 1 Opinions about including an impaired child in a mainstream school (Czech and Slovenian parents)



In the context of the **type of impairment** the parents were asked which impairment they consider most trouble-free with respect to accepting an impaired pupil by class-mates. The parents from both countries differed in the assessment of the type of impairment in the following way:

- In the opinion about **visual impairment** the difference was statistically significant only in the medium value, visual impairment assessed by Slovenian parents was more often in the medium 3rd place (see Table 2 + Graph 2).

Table 2 Opinions of Czech and Slovenian parents about accepting a visually impaired child by class-mates

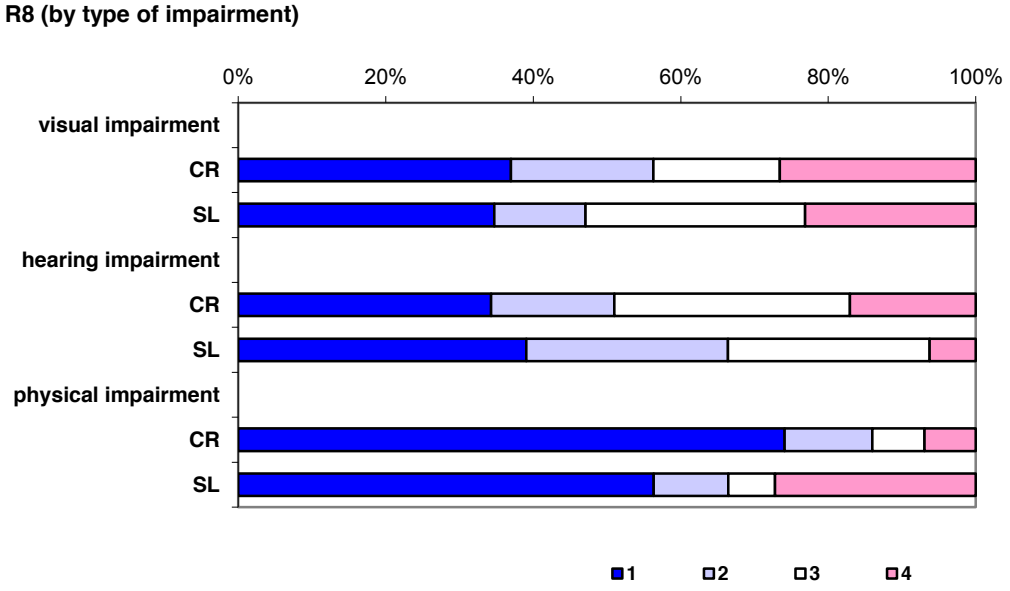
			r8visual_impairment				Total
			1	2	3	4	
country	Czech Republic	Count	209	109	97	150	565
		% within country	37.0%	19.3%	17.2%	26.5%	100.0%
		% within r8visual_impairment	83.3%	87.9%	72.9%	84.3%	82.4%
		Adjusted Residual	.5	1.8	-3.2	.8	
	Slovenia	Count	42	15	36	28	121
		% within country	34.7%	12.4%	29.8%	23.1%	100.0%
		% within r8visual_impairment	16.7%	12.1%	27.1%	15.7%	17.6%
		Adjusted Residual	-.5	-1.8	3.2	-.8	
Total		Count	251	124	133	178	686
		% within country	36.6%	18.1%	19.4%	25.9%	100.0%
		% within r8visual_impairment	100.0%	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	**11.349**[a]	**3**	**.010**
Likelihood Ratio	10.731	3	.013
Linear-by-Linear Association	.436	1	.509
N of Valid CASE	686		

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 21.87.

Graph 2 Parents' opinions about accepting a child by class-mates by type of impairment



- In the opinions about **hearing impairment** the parents from both countries differed in the assessment of 2nd place of "trouble-free" inclusion, which was hearing impairment according to Slovenian parents; the Czech group assessed hearing impairment in the last 4th place (see Table 3 + Graph 2).

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Table 3 Opinions of Czech and Slovenian parents about accepting a hearing impaired child by class-mates

			r8hearing_impairment				Total
			1	2	3	4	
country	Czech Republic	Count	189	92	176	94	551
		% within country	34.3%	16.7%	31.9%	17.1%	100.0%
		% within r8hearing_impairment	79.1%	72.4%	83.4%	92.2%	81.1%
		Adjusted Residual	-1.0	-2.8	1.0	3.1	
	Slovenia	Count	50	35	35	8	128
		% within country	39.1%	27.3%	27.3%	6.2%	100.0%
		% within r8hearing_impairment	20.9%	27.6%	16.6%	7.8%	18.9%
		Adjusted Residual	1.0	2.8	-1.0	-3.1	
Total		Count	239	127	211	102	679
		% within country	35.2%	18.7%	31.1%	15.0%	100.0%
		% within r8hearing_impairment	100.0%	100.0%	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	**15.751**[a]	**3**	**.001**
Likelihood Ratio	16.962	3	.001
Linear-by-Linear Association	8.320	1	.004
N of Valid Cases	679		

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 19.23.

- In case of **physical impairment** Czech and Slovenian parents differed in the assessment of the 1st place in terms of trouble-free inclusion, which was more frequently reported by Czech parents. Slovenian parents were significantly more critical to this type of impairment, which was assessed in the last 4th place in the context of accepting by class-mates (shown in Table 4 + Graph 2).

Table 4 Opinions of Czech and Slovenian parents about accepting a physically impaired child by class-mates

			r8physical_impairment				Total
			1	2	3	4	
country	Czech Republic	Count	555	89	53	52	749
		% within country	74.1%	11.9%	7.1%	6.9%	100.0%
		% within r8physical_impairment	86.2%	84.8%	84.1%	54.7%	82.6%
		Adjusted Residual	4.5	.6	.3	-7.6	
	Slovenia	Count	89	16	10	43	158
		% within country	56.3%	10.1%	6.3%	27.2%	100.0%
		% within r8physical_impairment	13.8%	15.2%	15.9%	45.3%	17.4%
		Adjusted Residual	-4.5	-.6	-.3	7.6	
Total		Count	644	105	63	95	907
		% within country	71.0%	11.6%	6.9%	10.5%	100.0%
		% within r8physical_impairment	100.0%	100.0%	100.0%	100.0%	100.0%

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Chi-Square Tests

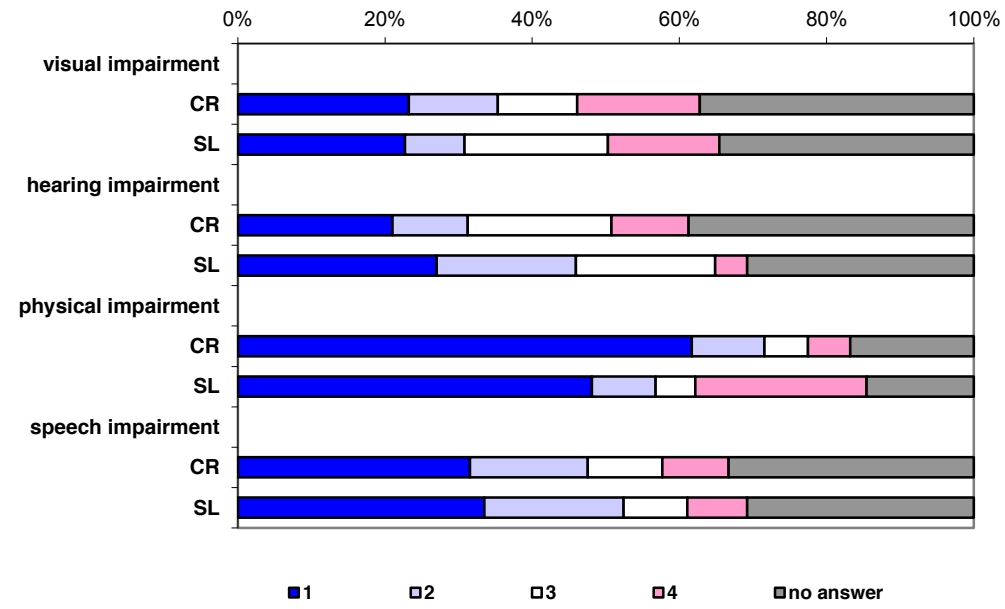
	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	57.451[a]	3	.000
Likelihood Ratio	45.975	3	.000
Linear-by-Linear Association	42.655	1	.000
N of Valid Cases	907		

a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 10.97.

- The opinions about including a child with **speech impairment** did not significantly differ between the groups of our research sample.

The mentioned facts were derived from the answers of those respondents who gave precise positions on the "trouble-free" scale in terms of specific types of impairment. However, a considerable part of parents left this item without a specific answer, as shown in Graph 3.

Graph 3 Opinions of Czech and Slovenian parents about accepting an impaired child by class-mates



An analysis of the opinions of Czech and Slovenian parents about **including an impaired child in the class of their healthy child** did not indicate any statistically significant differences, parents from both countries reported a significantly positive opinion, i.e. they think this situation is trouble-free, they would not mind an impaired individual in the class of their child.

Further data imply that parents from both countries statistically significantly differ in the **degree of experience with inclusion** where Slovenian parents have more experience, as indicated by Table 5 and Graph 4.

At the same time, parents from both countries do not significantly differ in the frequency of **presence of an impaired child in the family**, or in the opinion as to whether they would **use inclusive education**, if their child was impaired.

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Table 5 Experience of Czech and Slovenian parents with inclusion

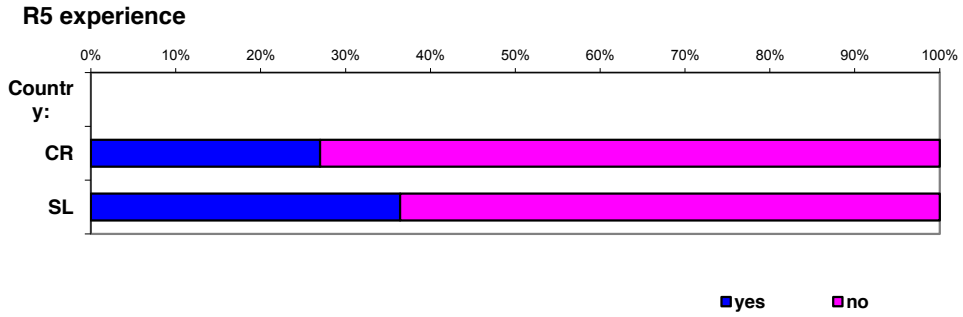
			r5experience		Total
			YES	NO	
country	Czech Republic	Count	243	657	900
		% within country	27.0%	73.0%	100.0%
		% within r5experience	78.4%	84.9%	83.0%
		Adjusted Residual	-2.6	2.6	
	Slovenia	Count	67	117	184
		% within country	36.4%	63.6%	100.0%
		% within r5experience	21.6%	15.1%	17.0%
		Adjusted Residual	2.6	-2.6	
Total		Count	310	774	1,084
		% within country	28.6%	71.4%	100.0%
		% within r5experience	100.0%	100.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	**6.629**[a]	**1**	**.010**		
Continuity Correction[b]	6.176	1	.013		
Likelihood Ratio	6.387	1	.011		
Fisher's Exact Test				.012	.007
Linear-by-Linear Association	6.623	1	.010		
N of Valid CASE	1,084				

a. 0 cells (0,0%) have expected count less than 5. The minimum expected count is 52.62.

Graph 4 Parents' experience with inclusion



The following data in Tables 6 and 7 document the correlations of selected variables separately for both countries. The following variables were used: *parents' age (r2 age), opinion about including an impaired child in a mainstream school (r6 inclusion), opinion about accepting a hearing impaired class-mate (r8hearing impairment), opinion about a physically impaired class-mate (r8physical impairment), opinion about including a speech impaired child in a mainstream school (r8speech impairment), opinion about including an impaired child in the respondent's healthy child's class (r10pupil in class), opinion about accepting a visually impaired child by class-mates (r8visual impairment).*

Significant correlations in **Czech parents** were identified for the following variables:

- Parents' age has a significant negative correlation with the opinion about the degree of trouble-free nature of hearing impairment, i.e. with increasing age parents' opinions about this type of impairment in the context of acceptance by class-mates is more optimistic.

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- With increasing age of Czech parents their distrust of including an impaired pupil in their child's class increases.
- Parents' opinions about including an impaired child in a mainstream school are positively correlated with the opinions about including such pupil in the class of their child.
- A negative correlation was observed between the assessment of the degree of trouble-free nature of including a child with hearing impairment and physical impairment, in other words if parents give positive assessment of hearing impairment in terms of accepting by class-mates, their positive assessment of the same in a physically impaired child decreases and vice versa.
- On the contrary, a positive correlation was observed between the assessment of trouble-free nature in a hearing and visually impaired child (it appears that parents' opinion about sensory impairment goes hand in hand, i.e. is perceived in a similar way).
- Positive correlations are significant also in relation between hearing and speech impairment, and also between the degree of trouble-free nature of hearing and visual impairment on the one hand and the opinion about including an impaired child in the class of the respondent's child on the other hand.

Table 6 Overview of correlations of selected variables in Czech parents

Variable	**Spearman's correlations**						
	The marked correlations are significant at a level of p <.05000						
	Country = Czech Republic						
	r2age	r6inclusion	R8hearing_impairment	r8physical_impairment	r8speech_impairment	r10pupil_in_class	r8visual_impairment
r2age	1.000	-0.021	-0.109	-0.030	0.038	0.072	0.016
r6inclusion	-0.021	1.000	0.051	-0.036	0.027	0.349	0.027
r8hearing_impairment	-0.109	0.051	1.000	-0.106	0.214	0.089	0.415
r8physical_impairment	-0.030	-0.036	-0.106	1.000	0.053	0.012	0.038
r8speech_impairment	0.038	0.027	0.214	0.053	1.000	0.005	0.021
r10pupil_in_class	0.072	0.349	0.089	0.012	0.005	1.000	0.098
r8visual_impairment	0.016	0.027	0.415	0.038	0.021	0.098	1.000

Table 7 shows significant correlations in the Slovenian sample of parents:

- Positive correlations were observed between the general opinion about including an impaired child in a mainstream school and the opinion about including such child in the class of the respondent's child, and between the general opinion about including an impaired child and the assessment of the degree of trouble-free nature of visual impairment in terms of accepting by class-mates.
- Similar to the Czech relationship, a positive correlation was observed between the assessment of visual and hearing impairment in terms of accepting by class-mates.

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Table 7 Overview of correlations of selected variables in Slovenian parents

Variable	**Spearman's correlations** The marked correlations are significant at a level of p <.05000 **Country=Slovenia**						
	r2age	r6inclusion	r8hearing_impairment	r8physical_impairment	r8speech_impairment	r10pupil_in_class	r8visual_impairment
r2age	1.000	0.010	-0.055	-0.115	-0.002	0.008	-0.056
r6inclusion	0.010	1.000	0.132	-0.083	-0.045	0.376	0.206
r8hearing_impairment	-0.055	0.132	1.000	-0.048	0.072	-0.090	0.453
r8physical_impairment	-0.115	-0.083	-0.048	1.000	0.050	-0.061	-0.078
r8speech_impairment	-0.002	-0.045	0.072	0.050	1.000	0.046	0.044
r10pupil_in_class	0.008	0.376	-0.090	-0.061	0.046	1.000	-0.017
r8visual_impairment	-0.056	0.206	0.453	-0.078	0.044	-0.017	1.000

Some partial findings that were of interest include the fact that although Slovenian parents have a general positive opinion about inclusion, the arguments for this form of education were detailed by only 14.6% of parents, the rest of respondents did not give any arguments. The Czech sample provided more arguments; still about a third of respondents did not give any reasons. The two most given arguments were comparable in terms of frequency. These included the contribution of this form of education to both sides – i.e. impaired children and healthy children, the other argument was based on separate contribution to impaired children.

A detailed analysis of opinions about specific types of impairment revealed that parents from both countries were hesitant about their opinions about mental impairment, which was evident from minimum reactions to questions about this type of impairment in the context of inclusion. An interesting finding is the fact that Slovenian parents think the least troublesome impairment to be included in a mainstream school is hearing impairment, while the most troublesome is physical impairment. On the contrary, the Czech sample of parents perceives physical impairment as the least troublesome.

Both groups of parents positively assess the possibility of the inclusive form of education and would use it in case they had an impaired child (both groups over 80%). An even more positive parents' attitude in both countries to this form of education was observed in questions asking about including an impaired pupil in the calls of their child, in both groups over 90% of respondents indicated a positive answer.

CONCLUSION

The monitored variables such as respondents' gender, education, presence of an impaired individual in the family or experience with the inclusive form of education did not have a statistically significant role in the Slovenian sample. The latter variable – experience with the inclusive form of education was more frequented in the Slovenian sample compared with Czech parents, however it appears that this variable does not significantly influence the general attitude of Slovenian parents to inclusion. One of the possible explanations is the different size of both monitored samples of parents; in the bigger Czech sample some significant differences in the effect of this variable were observed. In the Czech sample of parents the strongest effect was attributed to the variable of personal experience or an own child's experience with inclusion, where the impact of this variable was positive. Also, a certain role was played by parents' education (in favour of parents with a university degree), we also observed a positive effect of the variable of presence of an impaired individual in the family. Gender and age had only partial impacts.

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The positive attitude of parents towards inclusive education is an important factor that enters into the process of education and that cannot be ignored.

In this context, an important aspect is the necessity of responsible preparation of all conditions required for successful inclusion in school, including professional and psychological preparation of all actors in the educational process. To accomplish this task however, the highest possible amount of information is required. This was the reason for our research study, in which we aimed to identify and analyse the current opinion spectrum of parents of elementary school children in the context of the inclusive form of education.

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Self-Regulation Of Emotions In University Students

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ABSTRACT
The paper deals with self-regulation of emotions in university students from the perspective of the situation theory. It shows results from the qualitative research that collected data from the 16 focus groups with university students (N = 112). Data were analyzed via method of situation analysis, and were interrelated with theoretical knowledge from the perspective of the psychology and sociology of emotions. In this regard the paper focuses on the role of self-regulation of emotions in mechanisms of self-regulated learning. It shows how different sources and types of emotions affects emotion management strategies. The text argues that the key strategies of dealing with negative emotions are: support groups, inner speech, knowledge of learning cycle, and relaxation exercises.

INTRODUCTION

Jonathan Turner (2007, p. 1), recently wrote that Homo Sapiens is more emotional than any other animal on Earth. The assertion certainly applies to university students who must during their studies manage many emotions that vary from positive ones, such as optimism and cheerfulness, to negative ones, such as nervousness, anxiety, outrage or annoyance. Fear of exams and joy from their successful passing, then, are for many individuals some of the most powerful emotional experiences to remember for a long time after finishing their university studies.

The subject of this study are emotions in university students and the students' ability to manage and regulate their emotional experience in relation with their studying and learning. Self-regulation of emotions is commonly considered as one of the key prerequisites for self-regulation of behaviour (Carver, Scheier, 1998; Zimmerman, 1995, 2000) and self-regulation of learning (Boekaerts 1993; Boekaerts & Corno, 2005; Pekrun et al., 2002; Schutz & Davis, 2000). The more the actors are able to manage their emotional experience, the better conditions for studying they usually have. The emotions experienced by students affect not only their self-regulation, but also their motivation, learning strategies and cognitive resources (Pekrun, 1992, 2000).

We understand emotions in the same way as Margaret Archer (2004), i.e. as "a basic commentary on human concerns in the world," which gives the individual an information about their practical activities (e.g. reading and evaluation of experiments), relationships with others and their social and cultural norms. We are thus leaning towards a sociological conceptualization of emotions, which accentuates their social dimensions (see e.g. Kemper, 1978; Shott, 1979; Thoit, 1990; Turner, 2007). Emotions in this approach arise from interaction between actors or between actors and objects and always carry cultural significance. Managing emotions or their regulation, then, is a distinctive type of channelling of emotions that Arlie Hochschild (1979, 1983) refers to as the emotional labour or emotional management.

As demonstrated by Pekrun and his colleagues (Pekrun & Frese, 1992; Pekrun et al., 2002), psychology of learning was in the case of emotions interested for a long time mainly in the issue of anxiety, whereas the other forms of emotions were rather neglected. Only recently the qualitatively oriented research of the same author came to the realization that students experience in relation to educational processes and institutions not only negative emotions, but equally often also positive emotions (Pekrun & Frese, 1992; Pekrun at al., 2002). Table 1 shows some of the positive and negative emotions that are, according to Pekrun et al. (2002), most often present in the academic environment and that are therefore described as academic emotions. Emotions are in this case divided into four dimensions, according to their relation to what is being experienced. Whether they are related to the current ongoing educational process or whether they are oriented towards the future, to its anticipated results, or to the past. Last but not least, it is necessary to distinguish the social domain that refers to emotional relationships with the institution, classmates and teachers.

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Table 1: Academic emotions and their domains

	Positive	Negative
Task-related and self-related Process	Enjoyment	Boredom
Prospective	Anticipatory joy Hope	Hopelessness Anxiety
Retrospective	Joy about success Satisfaction Pride Relief	Sadness Disappointment Shame and guilt
Social	Gratitude Empathy Admiration Sympathy and love	Anger Jealousy and envy Contempt Antipathy and hate

Modified according to Pekrun et al. (2002, p. 92).

Following these findings, the objective of this study is to analyse the issue of self-regulation of emotions in university students. For this ultimate objective, we formulate three consecutive research questions, which also represent partial objectives of our study: (1) What emotions are present in university students in relation to their educational process? (2) How students regulate these emotions? (3) How channelling emotions affect the ability to manage their learning and the learning process as a whole?

It is necessary to say that for the implementation of this kind of research objective, we rather choose a qualitative research strategy, allowing us to describe to a greater extent the diversity of emotional states and the situations in which the emotions are experienced, than if we used some of the psycho-diagnostic methods, such as questionnaire. Those are usually focused on only one or two types of emotions. Therefore, they cannot describe the diversity. In this context, our intention is not to test certain theoretical assumptions about the role of emotions in the self-regulation of behaviour, as can be found in e.g. the concepts of Carver and Scheier (1998) or Zimmerman (1995). On the contrary, we want in the gathered data to identify key mechanisms that actors situated in a particular situation use to self-regulate their emotions, and subsequently, we want to describe how this self-regulation affects their educational process and learning. We build on the assumption of methodological localism ((Little, 2006, 2009), which emphasizes the fact that all theoretical models must be based on data. Furthermore, this assumption has led us to use the so-called situational analysis (Clarke, 2003, 2005) as a suitable research tool.

The contribution of thus conceived study lies primarily in that it allows us to determine how students themselves in their everyday language describe and conceptualize their emotional experience, what significance do they ascribe to it and what do they consider to be the source of different types of emotions. Following this, we are able to describe also the strategies that students use to manage different forms of negative emotions. Finally, we believe that we are able to explore also the key relationship between regulation of emotions – the so-called emotional work, as written about by Hochschild (1979, 1983) – and the self-regulation of learning. The focus on self-regulation of emotions is also important for one more reason – because the vast majority of research on this phenomenon in the Czech Republic only devotes marginal attention to it (see Hladík & Vávrová, 2011; Gavora, Jakešová & Kalenda, 2015; Jakešová 2014; Jakešová & Hrbáčková, 2014; Vávrová, Hladík & Hrbáčková, 2012).

THE STUDY

The aim of our research was to examine the situation of study and learning of students of one of the public universities in the Czech Republic. In the research, we have focused on the ability of students to manage their learning and their study process, while taking into account the emotional dimension that for students both activities have. For this purpose, we have used half-structured interviews in the target groups that focused on understanding from the students' side.

The research was conducted during the autumn of 2014 and the spring of 2015. The researched group were students of one Czech public university. In the research, we have included students of the third year of bachelor's degree programs from three different faculties – economically, humanities and sciences-oriented.

Within each faculty, we have chosen a group of students with whom we subsequently implemented the focus groups according to the basic principles described by Morgan (2010, 2012). The purposeful choice was in that we have picked a study subject that was attended by as many students from different branches of study as possible. As a result, we have got a very diverse group of students. An exception to this was the humanities-oriented faculty,

which did not have such a subject, and so we have conducted the research with students of two branches of study, so that we could achieve diversity even in this faculty's sample.

Questions in the interview focused on seven areas related to self-regulation of learning and management of university studies; one of them directly accentuated the issue of occurrence and management of emotions. The questions were rather open and concerned with the general topic of the discussion, they did not contain assumptions about the given group of phenomena. Before, during and after the interview, field notes about dynamics of the interview in each group, emotional attunement and openness of statements were recorded. Based on this information, we can say that majority of the focus groups were held in a calm and friendly atmosphere, the participants responded most openly, without any signs of concern or fear of sanctions for their statements. The atmosphere in many of the focus groups was cheerful, many of the participants' statements caused an outburst of laughter.

Altogether, 16 focus groups were created; the attendance was 112 people (43 men and 69 women) aged from 21 to 25. Each of the focus groups consisted of 6-10 participants and the main research part lasted from 60 to 80 minutes. Each of the focus groups was coordinated by a moderator who collaborated with an assistant who was in charge of recording and note-taking. Each of the focus groups was recorded by a voice recorder and a video camera. The participants agreed with the recording and with presentation of the results. For ethical reasons, all the results were strictly anonymous and informants in the data sheets were labelled by acronyms and numbers.
The collected data were then converted into text form and underwent the so-called situational analysis. It is a method developed mainly by the American author Adele E. Clarke (2003, 2005) who built up on a long tradition of grounded theory (Strauss & Corbin, 1999; Corbin & Strauss, 2008). That is why it is sometimes referred to as the second generation of grounded theory. The situational theory is based on a specific form of open coding that attempts to capture all human and non-human, discoursive and non-discoursive, symbolic and material, intrapsychic and social elements present in a particular situation and creates the resulting structure and meaning. After these elements have been identified in the collected data – the statements of the actors – it is possible to create a basic map of a particular situation from them and start conducting the relational analysis among them. The relational analysis is done by data-based theorizing about relationships between individual elements and their meanings.

In the case of analysis of emotions, we focused primarily on what variations in the collected data they form, through which it is possible to answer our first research question (What emotions are present in university students in relation to their educational process?). Following thus defined and internally structured element, we started to perform a relational analysis – i.e. to determine what relationships it has with other elements in the situation of education and teaching of university students. The relational analysis allowed us to answer the next two research questions (How students regulate their emotions? How channelling emotions affect the ability to manage their learning and the learning process as a whole?). Thanks to the relational analysis we could outline and theorize the relationships between different emotions and motivations, the constructs of teachers and study programs, exams and other elements present in the given situation.

FINDINGS

In terms of types, we can distinguish in our data a wide range of emotions varying from positive ones – happiness, joy, relief or elation, to negative ones – expressions of fear, anger and sadness. In total, we have through coding identified 28 different emotions. The findings of Pekrun and his colleagues (Pekrun & Frese, 1992; Pekrun et al., 2002) about the diversity of emotions experienced by university students correspond with Czech educational reality. However, it should be noted that most of the emotions in our informants were those of a negative character. To systemize the codes associated with emotions, we present Tables 2 and 3, which show both primary and secondary emotions present in our informants. Thanks to this, we are able to create a map of emotions in a university students' learning situation.

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Table 2: Expressions of basic emotions in university students

Type of emotion	Low intensity	Moderate intensity	High intensity
Satisfaction/happiness	Satisfaction Peace Pleasure		Happiness/joy Bliss Elation
Aversion/fear	Concern	Worry Anxiety Fright Nervousness Panic	
Enforcement/anger	Resentfulness Agitation	Discontent	
Disappointment/sadness	Dejection Peevishness	Vexation	Disappointment

To systemize basic emotions (Table 2) we use the distinction of intensity of emotions as presented in the work of Jonathan Turner (1999, 2002, p. 71, 2007, p. 7, 2014, p. 18), which allows us to understand better what intensity the emotional experience of students can reach. In general, if students reflect on their emotions and speak about them, they usually have low intensity. An exception to this are feelings of satisfaction/happiness and disappointment/sadness, which often reach high intensity. Highly intensive emotions are most often bound to results of exams, whereas less intensive emotions are bound to reflections of everyday study or attitudes towards teachers. There is a general tendency to associate aversion/fear with the process of learning and this emotion is mostly of moderate intensity. As we will discuss in more detail below, learning for students means in its first phase especially feelings of fear, fright, nervousness and sometimes even panic. They need to overcome these emotions to be able to successfully manage their studies. Therefore they, themselves, assume that self-regulation of these emotions is the key component in managing their learning.

The next table (Table 3) displays secondary emotions identified in statements of the informants. There are three groups of secondary emotions that we again systemized according to Jonathan Turner's typology (1999, 2002, 2007). They are formed as a combination of two types of negative basic emotions – aversion/fear and disappointment/sadness.

Table 3: Expressions of secondary emotions in university students

Aversion – fear		
Aversion/fear + Satisfaction/happiness	creates	Esteem, respect
Enforcement – anger		
Enforcement/anger + Disappointment/sadness	creates	Bitterness, disillusionment
Disappointment – sadness		
Disappointment/sadness + Aversion/fear	creates	Regret
Disappointment/sadness + Enforcement/anger	creates	Discontent, unfulfilled expectations, boredom

The first group of secondary emotions are esteem and respect that students feel towards those teachers that they consider inspirational, quality, communicative and dedicated to their job. This assertion is illustrated by the statement of one of the informants: "I really appreciate her (the teacher's) enthusiasm towards her subject. (...) It passes on to me. We can see that she wants us to really understand the subject and we can also see that she understands the subject" (R8/8). On the other hand, towards those who do not meet these criteria students experience feelings of discontent, dejection, peevishness and resentfulness of their inadequate work. One of the participants states: "It's awful to see that they are either busy or not giving a damn altogether. It makes me sad to know that they actually don't care about me. We're the last thing" (R9/12).

The other group of emotions is bitterness, disillusionment and regret that represent various combinations of enforcement/anger and aversion/fear. The cause of these secondary emotions in students is confrontation with the academic environment and poor prospects towards employability. Students ponder on the fact that their education might not be enough to secure a job in the future and that they will have to make do with a much worse position than graduates ten years ago. One of the participants in this regard states: "The fact that one studies something that

he eventually will not like is bugging me. On the other hand, I know very well how much have I and my parents already invested in the education. There's no other way but to graduate. It's better than to pack things up and have no school at all. I'd have lost two, three years. Talk about loss of illusions..." (R6/8). Other members of this group follow up on this statement: "We're losing these illusions. Completely" (R6/8). These people view the academic environment as impersonal, aloof and mass: "This is certainly far from my high school experience, where we all knew each other and were friends with each other. (...) I don't even know some of my current classmates. Even the teachers treat us that way" (R3/14).

The third group of emotions is discontent, unfulfilled expectations and boredom. It is through these three emotions that students most often define their feelings about their current three-year study programme. The unfulfilled expectations in this case spring from their belief that school cannot practically enough prepare them for professional life. The boredom manifests itself in that during the semester there are no significant demands placed on the students and the students then consider the university studies easier than studying at high school. "For me, high school was much harder" (5/7). The overall discontent is illustratively documented by the following statements of members of one of the focus groups: "It's kind of discouraging, the study as such (...) Right now it's kind of sad" (R4/9).

If we paste the emotions identified by us into the same diagram (see Table 4) as provided by Pekrun et al. (2002), we can see that the structure of emotions of students of the university researched by us varies greatly. Prospects for the future, as well as reflections of the past are in the case of our informants accompanied by predominantly negative emotions that refer to a difficult structural situation on the border of professional training and entry to the labour market.

Table 4: Academic emotions and their domains at a Czech university

	Positive	**Negative**
Task-related and self-related Process	Satisfaction, peace, pleasure, happiness, elation	Discontent, boredom, worry, anxiety, fright, panic, nervousness, concern
Prospective		Bitterness, disillusionment
Retrospective		Unfulfilled expectations, regret,
Social	Esteem, respect	Discontent, dejection, resentfulness, peevishness, vexation, disappointment

Our research shows that self-regulation of emotions means for our informants above all management of negative emotions. Regulation of positive emotions, as can be seen in e.g. services or media (see Hochschild, 1979, 1983) is not present in our currently investigated environment. If we are to further write about self-regulation of emotions, we shall therefore mean mostly self-regulation of negative emotions, because only those form connections from relational analysis between them and practices of management of emotions.

Based on this analysis we can state that the issue of self-regulation of emotions manifests itself in three main dimensions. The first one is an ideational construct of a successful and unsuccessful student. Our informants consider a student to be successful when he or she is able to manage their emotions, whereas the signs of an unsuccessful student include succumbing to nervousness and panic from learning and the inability to overcome the feeling of disillusionment and boredom, despite the necessity to graduate. A successful student in the informants' perception is able to overcome fears of the difficulties of preparation for exams and to start learning and is also able to motivate and persuade himself/herself about the importance of graduation and completion of exams, despite not always having experienced joyful and satisfactory moments during their studies: "I guess it really is important to bite the bullet and sit down to study even when I don't like it, which is almost all the time. Just suck it up and finish it somehow. People who cannot do it usually drop off or go study something else" (R12/5).

The second dimension of self-regulation of emotions are situations in which emotions are being channelled and which create the need to manage the emotions. In this respect, they are: (1) Exams, where the emotional experience is, according to students, the strongest. Here a high level of regulation of anxiety and nervousness before the exam is necessary and subsequently, in case of failure, coping with post-exam negative emotions – disappointment, vexation, dejection and peevishness. (2) The process of learning for the exams and tests, where the level of emotional experience is somewhat lower than in the case of exams, but even there it is necessary to regulate and

overcome negative emotions and start the process of learning. With regard to this point, the participants report that moderate concerns have an energizing effect on them and lead them to greater efforts: "When I feel at least a little nervous, I start working harder on myself. When I don't, I usually just slack about" (R6/7). (3) Normal everyday studies (attendance at seminars, lectures and tutorials), which are connected with the lowest intensity emotions. In this case the informants emphasize the need to overcome the dejection and peevishness or boredom from the taught subjects and to try to complete them at least with the minimum required attendance: "I must fight myself all the time to attend this subject, even though it is compulsory. I honestly have no idea what use will it be" (R9/4).

The last dimension are strategies of management of emotions, where four main types can be identified: (1) Support group. This means using close friends to share negative emotions with in order to get support in case of a failed exam (to cope with the disappointment) or nervousness and fear before an exam. (2) Inner speech, which is mostly bound to coping with negative feelings that are associated with studying as such. In it, the actors try to rationalize their decision to study a university and graduate from it despite some negative emotions. One informant literally quoted her inner speech on this topic: *"*The idea of studying five years or so and then saying to my parents: Sorry, mom, I know it costed you hundreds of thousands, but I failed. (...) to graduate somehow could be taken as a good investment" (R5/12). (3) Experience with a successful learning cycle. This means that the actors emphasize their knowing that at the beginning of their learning, there is always some worry, nervousness, anxiety, but when they overcome them, those negative emotions disappear and positive emotions appear as a response to a successfully finished task. This kind of strategy is most often used in relation to the process of learning itself, whether it is for exams, preparation for seminar papers or other tasks. As described by one of the informants: "It's one small step for a seminar paper, but a giant leap for the entire study" (R1/10). This informant's statement reflects the belief of students that self-regulation of learning and emotions are intertwined on this level, where students who are better able to distribute their work into many smaller and easier steps more easily overcome their worries about learning and better achieve their goals. (4) Strategies for unwinding and relaxation including a wide range of activities from yoga and relaxation exercise to sports. These strategies are most often used in the exam period, when students are confronted with the greatest demands and when they need to cope with worries and anxiety before exams.

Table 5: Relationship between strategies of management of emotions and sources of emotions

Source of emotions	**Intensity of emotions**	**Strategy of management of emotions**
Exams	Moderate to high	Support group, strategies for unwinding and relaxation
Process of learning	Moderate	Knowledge of learning cycle
Study	Low	Inner speech

We summarize the issue of self-regulation of emotions in Tab. 5, where the relationship between situations creating main negative emotions and between strategies to cope with them are shown.

CONCLUSIONS

To manage succesfully their studies and learning and direct it towards the intended goals, means for students a necessity to deal with negative emotions: disappointment from failed exams, boredom during the course of studies, nervousness and concerns at the beginning of the study process. The more students manage to cope with these negative emotions, the better presuppositions for the study process and learning they have. Our findings about the relationship between self-regulation of learning and self-regulation of emotions correspond with the findings of previous research (Pekrun, 1992, 2000), which emphasize the direct correlation between self-regulation of emotions and learning.

However, emotions do not affect self-regulation of learning only through the ability to manage negative emotions. Positive emotions affect self-regulation of learning in their own way. It is the positive emotions, most often caused by a success in exams or by completing a difficult task that, according to informants, affect motivation by strengthening it. Motivated individuals then have better presuppositions to manage the process of learning and studying. Their effect is, according to the participants, mediated through motivation and represents a relatively autonomous mechanism. This mechanism partially meets the self-regulation of emotions in case of experience with a succesful cycle of learning, where positive emotions play their role.

Deborah L. Butler (2002) in her programmatic article about qualitative approach to research on self-regulation of learning wrote that this epistemological perspective enables us, among other things, to examine the phenomenon of self-regulation from the perspective of actors and to define it in the context of their everyday world. This is precisely the result that we attempted to reach in our own analysis. The concept of self-regulation of emotions presented by us shows that it is impossible to think about a general concept of management of emotions, but that

individual strategies for coping with emotions (regulatory mechanisms) are always dependent on the type and strength of emotions, which the specific actors in the given situation are dealing with, and also on the source of emotions. Be it the exams, the process of learning or the study as a whole. Furthermore, we need to mention that there is close correlation between the process of self-regulation of learning and emotions. In our results, self-regulation of emotions is one of the prerequisites of effective self-regulation of learning. However, this does not mean that emotions would act on this phenomenon only through self-regulation. Emotions experienced in the course of studies and learning have an important effect on motivation, through which they, again, indirectly affect self-regulation of learning.

We do not claim that this study would represent a definitive answer on how university students channel their emotions or how this phenomenon relates to self-regulation of learning. But it does offer an important empiric insight into the issue, thanks to which we can see the diversity and specificity of local relationships and emotional mechanisms. And through further comparative research of these mechanisms, we can discover new knowledge in this field of research.

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Some Problems Encountered In The Hadıth Educatıon At The Faculties Of Dıvınity In Turkey And Solutıon Proposals

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SUMMARY

The point where the tradition education in the Faculties of Divinity in Turkey is quite pleasing. These days training continues at about 100 Faculty of Divinity in Turkey. Therefore, academic hadith education continues in these Faculties. History of academic hadith education in Turkey passed half a century and academic hadith education has become an important point. But however, academic hadith education in Faculties of Divinity in Turkey has some problems. In this paper, firstly these problems will be identified and will then be presented some solutions to these problems.

Key Words: Faculty of Divinity, Hadith Education in Turkey, problems of hadith education, new proposals solution.

1. INTRODUCTION

Firstly, in this paper I briefly describe the conceps of hadith and sunnah, then I will mention a summary of the start of the academic theological education in Turkey. After that, I am going to mention some problems in the hadith education and I am going to offer new solutions to this problems.

1.1. The Concepts of Hadith and Sunnah

1.1.1. Hadith:

Hadith are the collections of the reports of the teachings, deeds and sayings of the Islamic prophet Muhammad (pbuh). The term comes from the Arabic :حديث , plural :أحاديث, meaning "report" "account" or "narrative" (Koçyiğit, 1985).

In Islamic terminology, the term *hadith* refers to reports of statements or actions of The Holy Prophet Muhammad, or of his tacit approval or criticism of something said or done in his presence. Classical hadith specialist Ibn Hajar al-Asqalani says that the intended meaning of *hadith* in religious tradition is something attributed to Prophet Muhammad but that is not found in the Quran (al-Asqalani, Ahmad ibn 'Ali, *Fath al-Bari*). Other associated words possess similar meanings including: *khabar* (news, information) often refers to reports about Prophet Muhammad, but sometimes refers to traditions about his companions and their successors from the following generation; conversely, *athar* (trace, vestige) usually refers to traditions about the companions and successors, though sometimes connotes traditions about Prophet Muhammad. The word *sunnah* (custom) is also used in reference to a normative custom of Prophet Muhammad or the early Muslim community.

1.1.2. Sunnah:

Sunnah is the way of life prescribed as normative for Muslims on the basis of the teachings and practices of the Islamic prophet Muhammad and interpretations of the Islamic holy book, the Quran. The Word *sunnah* (سنة, Arabic: [ˈsunna], plural سنن *sunan*[ˈsunan]) is derived from the root (سن[sa-n-na]), meaning smooth and easy flow or direct flow path. The word literally means a clear and well trodden path. In the discussion of the sources of religion, *sunnah* denotes the practices of Prophet Muhammad that he taught and practically instituted as a teacher of the sharia and the best exemplar. According to Muslim belief, this practice is to be adhered to in fulfilling the divine injunctions, carrying out religious rites, and moulding life in accord with the will of God. Instituting these practices was, as the Quran states, a part of Muhammad's responsibility as a messenger of God.R

2. BEGINNING OF ACADEMIC RELIGIOUS EDUCATION IN TURKEY

Here, we will talk about the establishment of the Faculty of Divinities in Turkey after the declaration of Republic and the start of the academic education of religion.

2.1. The Establishment Of The Faculty Of Divinities In Turkey

The beginning of the education in the first Faculty of Divinity at Turkey, goes back to the founding years of the Republic. According to the fourth article of the Unification of Education Law, the task of opening the Imam and Preacher Schools and Faculty of Theologies were assigned to the Ministry of Education. In accordance with the

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related article, in 1923-1924 years in twenty nine places was opened Imam and Preacher Schools which training period of four years. However, some re-closed within one to two years and in 1925 and 1926, except in İstanbul and Kütahya completely closed. According to the same Law again, were opened a Faculty of Divinity in Daru'l-Funûn which means Istanbul University. This Faculty which teaching time was defined as there years was closed in 1933.

We know that Hadith and History of Hadith lessons were taught in this first Faculty of Divinity which established in Turkey. Faculty of Theology, founded in 1924 has continued its training activities for nine until 1933. Istanbul University which was founded after abolishment of Daru'l-Funun in 1933, has not included the Faculty of Divinitiy.

16 (sexteen) years after the closure of Istanbul Daru'l-Fünûn Faculty of Theology, was opened this time Faculty of Divinity University of Ankara November 21 in 1949. In 1959, so that İmam Hatip High School graduates can continue their education was founded High Islamic Instituties. These institutes were transformed into the Faculty of Divinity in 1982.

The Faculty of Divinity at Ankara University was the first divinity school to be founded in Turkey after the Dârülfünûn İlâhiyat Fakültesi was closed down in 1933. Since its establishment in 1949, the Faculty has had a distinguished place in the history of Islamic and religious thought in Turkey. The intellectual sources of the Faculty are rooted in the rich legacy of the classical Islamic sciences advanced throughout a long-lasting and multi-cultured Islamic and Turkish history. The Faculty has played an important role in the academic teaching of Islamic and religious scholarly disciplines by integrating the traditional spirit of Islamic disciplines with modern developments in religious studies. A focus on traditional Islamic values paired with the advantages of critical thinking in religious matters has been and remains a definitive characteristic of education at the Faculty of Divinity.

Actually it would not be wrong to say that academic Hadith training in Turkey began with the establishment of the Ankara University Faculty of Divinity. In various environments it is expressed that from the opening of this Faculty in Turkey until tuday, academic hadith training is face to face with various problems. In this our paper, we want to offer some new proposals solution by addressing at least some of these problems.

3. SOME PROBLEMS IN HADITH EDUCATION IN TURKEY AND SOME SOLUTIONS

The Turkish Republic is witnessing tremendous progress in the fields of education, especially religious education; due to this progress and development, religious colleges and institutes have been doubled in Turkey. The country has witnessed intensive efforts to improve the system of religious education by holding conferences, seminars, and conducting studies and researches locally and internationally. There are many attempts are being made, and many insights are being posed which are meant, by those who made it, to raise the religious education system and spread it throughout the world.

The Turkish Government has encouraged, and still encouraging, upgrading and activating the educational process in all fields and disciplines, especially religious education.

Among the developed fields, come the religious education and no one can deny it. In fact, the current situation and the number of graduates in the Arab and Islamic Sciences is the biggest evidence of that, and it increases every year. In addition to that is the increasing numbers of Turkish students who want to enroll in the faculties of Theology has been witnessed in all across the Turkish Republic. These colleges have different religious sections such as Hadith (Prophet sayings), Feqih (Jurisprudence), Tafseer (Interpretation) and Speech in addition to the Arabic language. Each of the above mentioned sections has its own different sections; for example, Hadith teachings has its own sections such as science of Hadith's terms, science of Al Jarih and Ta'adeel, science of Sanad, and science of knowledge of men. The study of Hadith science in the Faculty of Theology became a specialized study; and specialized scientists in the section became well known and well referenced, and their diversified scientific researches have been spread locally and internationally. In summary, the Hadith studies, which are many in the Theology Faculty, are very advanced to a large extent and with a unique level. However, there are some imperfections and something of dereliction which should be solved which are as follows:

3.1. The Problem of Language

The problem lies in that the Hadith science in the Faculty of Theology is taught in Arabic, and it is obligatory to do so. The problem is that the students of the difficulty find it hard to learn the Arabic language. Complains are still continuing to be raised by students due to their weak level of language and lack of understanding and speaking in Arabic language in a good manner, which makes it hard for them and extremely difficult to do.

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3.2. Many and Diversified School Materials

This problem is not less difficult than the previous one, where there is no agreement between Hadith materials determined by the Hadith teachers in Theology Faculties founded across Turkey now. We can find that every professor of Hadith decide a specific book for his students which totally differs than what is decided by another professor in another university. Therefore, teaching materials are diversified in all Theology Faculties in Turkey. The problem lies in the large number and the difficulty of these materials to the students, and it has different level of hardness and easiness from one place to another. Then one exam is given to all of the students which make it hard for the students to answer all the tests as the tests are written from books that are not recognized by the students or did not even study it. This problem is one of the most important issues experienced by students in the Hadith section.

3.3. The Approach Used in Teaching Hadith Science.

The used approach is difficult approach to apply, and this problem comes from the earlier mentioned problem, where we find that the student who graduated from the Hadith department did not recognize a lot of sources and references of Hadith books such as Bukhari, Muslim and others. This is due to the issue of limiting the applied taught materials to specific books which are different from university to another as mentioned earlier. Here lies the problem, where graduated student does not know anything about the heritage books in Hadith science, which he/she should have studied at the university level as it is the heart of his/her specialization.

This is in brief the main problems faced by Hadith science's students at the Faculty of Theology in the Republic of Turkey. After listing these problems, now we are exploring proposed solutions to solve those issues. The solutions are as follows:

4. FIND APPROPRIATE SOLUTIONS TO THE PROBLEM OF LANGUAGE AND THESE SOLUTIONS CAN BE:

The problem of education in Arabic language and find a solution for it:

I can state that one of the biggest problems facing Hadith science's students in Theology Faculties in Turkey is that they are studying Hadith in Arabic language, and it is compulsory to do so. Students find it hard to do so due to their poor linguistic level. The repeated complaints from students on a frequent basis that they did not understanding the lesson in a well manner creates a burden on us as teachers have to prepare for the lesson. Then we find out that the students got much less than we expected. Therefore, the main obstacle is the problem of the language and I suggest the following:

- We limit the teaching of the Metin (the text) of Hadith in Arabic, and we ask students to read it well and memorize. But in explaining the text, I suggest that to be in Turkish language and this is what is demanded by the students. Hadith science can be taught in Arabic during higher stages of Hadith sciences when students have better language skills.

Secondly: The taught Hadith science's curriculum for students all over Turkey should be united. Communication between professors of Theology Faculties all over Turkey should be encouraged in order to come up with one united curriculum for students to study. And the exam should be taken from this new curriculum so students study the curriculum in a good manner; and all students have the same opportunity to answer the test, which will be held at the end of each year, so we don't disturb students' minds.

Thirdly: I suggest a meeting for all the Hadith Professors in all over Turkey to choose the main books of Hadith which students should study them. It is not allowed at all that for a student to study a book in Hadith science written by a professor without he/she recognizes the Hadith authentic sources; this is a big methodological defect. Original books and original resources of Hadith science should be available to all students so the study of Hadith science can be taken from its original resources.

Fourthly: Each and every Theology Faculty should, or must, have an independent library or private hall full of all Hadith books of all sources and all references in which students themselves can read them. This can make it easier for students to understand their teachers, and using those books for further researches. Sadly, most of the students who graduate in the Hadith department do not know and do not touch anything of this science sources during their studies and after graduation. Their knowledge are not enough, and far away from the origin of this science. Therefore, the availability of sources should be available for students as they are the main core of their specialization.

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Stress And Burnout In Special Education Teachers

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ABSTRACT

Background: Duties that teachers are required to perform in the current social context require personal skills which cannot be limited to knowledge accumulation. Teachers related to special education are subject to such pressure, demands and psychological overload that it can result in serious cases of stress and burnout. **Objectives:** assessing stress and burnout in special education teachers and find out to what extent socio-demographic and psychosocial variables have a significant effect on those levels. **Method:** Study of quantitative, cross-cutting and descriptive-correlational nature. It is a non-probability sampling based on convenience, composed of 90 teachers, linked to special education in Portugal. The research protocol includes questions of socio-demographic, professional and health characterization, as well as two scales: one which assesses stress and burnout levels (CPB-R) and another which assesses self-efficacy (SES). Data collection took place between January and June 2014, and statistical treatment of data was based on SPSS software 19.0. **Outcomes**: The sample is mainly composed of females, married, holding a bachelor's degree and with a mean age of 46 years old. Stress affects 80% of teachers, who feel lack of recognition for their work (64.4%) and professional fulfilment (55.6%). Although overall burnout (35.6%) and emotional exhaustion (48.9%) were identified, they strike a lower number of teachers. Stress and burnout levels are higher in older and divorced teachers who teach students in lower secondary education, with a weekly working time of 22/25 hours and perception of low efficacy.

Evidence showed that teacher's stress and burnout is variable and multidimensional. Nonetheless, it affects a significant number of special education teachers, which invites us to implement intervention programs on this professional group.

Keywords: Teachers, Special Education, Stress, Burnout, self-efficacy.

INTRODUCTION

Education in Portugal has been under constant debate, and there is presently broad consensus on the need of improvement of its quality. Nowadays new paths are opening up, new strategies are required, as well as new educational approaches, substantially different from those which guided the intervention of the teacher in times past. Teaching staff is composed of highly heterogeneous elements, with varied education, which are faced with quick changes in a context that does not meet their demands, cultural background and conceptions. School population is also increasingly heterogeneous, including students from all kinds of social, cultural and economic backgrounds, resulting in a variety of interests, motivations, abilities and skills. Teachers are the major support who structure the educational path and are aware of complex issues and difficulties they must handle. The new duties of teachers in the current social and professional context require many personal skills which cannot be limited to knowledge accumulation. When performing their role, teachers are subject to the pressure of several psychosocial factors, which cause stress and burnout.

Stress induced by professional activities is known as occupational stress, being the result of the intense pace of work and high level of focus required for the performance of daily tasks. Therefore, we can state that occupational stress reflects the existing mismatch between individuals and the environment. In the case of teachers, especially those related to special education, the occupational environment and skill requirements arising from work are mediated by the perception that these requirements represent a threat to their self-esteem and well-being, causing negative responses and feelings, usually accompanied by physiological and even biochemical or pathogenic changes.

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Burnout consists in the mixture of emotional exhaustion, depersonalization and reduced personal accomplishment. Emotional exhaustion involves assuming that burnout is mainly developed in workers whose duties require high levels of interpersonal involvement. As for the sense of depersonalization, it corresponds to a reaction to stress, expressed in a variety of attitudes marked by weak or non-existent involvement in the problems they have to address, handling them as objects instead of as human beings (Kuçuksuleymanoglu, 2011). Reduced personal accomplishment is the sense of performing poorly at work, despite efforts made to reverse this situation, which manifests itself in stress, depression and sense of contempt.

Studies conducted by Pyalto, Pietarinen, and Salmela-Acro (2011) show that, although most teachers find their work a professionally gratifying activity, they also acknowledge that they form a group with high risk of burnout, when compared with other professionals from the academic sphere. Due to continual changes, teachers have increasingly less time to perform teaching tasks, thus reducing opportunities to carry out creative activities. Therefore, as Sampaio (2009) mentions, there is a widening gap between the execution (activities performed by teachers) and planning of guidelines which direct their work, alongside a high level of complexity which marks the outcomes of those tasks. Taking into account the varied duties, assignments and realities, we draw attention to: the type of institution (public or private), employment status (full-time or shift work), types of training (pedagogical or technical), training level (graduate, postgraduate), student's environment (age group, social class, education level, economic power, etc.)

Although extensive research was carried out on teacher's burnout, aimed at gaining a deeper understanding of the levels, dimensions and factors which contribute to this syndrome, we still know very little about the way in which burnout develops itself. Understanding the work-related strain of this group is paramount, since burnout in teachers (particularly those related to special education) has a significant impact not only on motivation, health, work and satisfaction but also on the behaviour and learning of students themselves. Associated to dissatisfaction with work, burnout also has negative affective and work-related implications (such as depression and poor occupational performance), not only for teachers but also for their families, students and schools.

There is widespread consensus that teachers working with students with special educational needs are under higher levels of conflict and tension. A study conducted by Cecil, Martin, Christopher, and William, (2010) cited by Nauege, (2011), showed that most Special Education teachers abandon this field, accepting positions in other educational domains or retiring. Reasons indicated for this abandonment relate to the fact that teachers feel unappreciated, overwhelmed by student's needs, excess of responsibilities and overall sense of reduced power. A mixture of unpleasant working conditions (lack of support, reduced power, lack of training…) and external influences (decease of relatives, spouse transfer, retirement, divorce, birth of children…) also lead those teachers to abandon this field of education.

5. Problem Statement

The few studies carried out on stress and burnout in special education teachers show that these constructs may result from the influence of several factors. Therefore, it is essential to assess the levels of stress and burnout in these teachers and find out to what extent those levels are influenced by socio-demographic and psychosocial factors.

6. Research Questions

Research questions on which this survey was based are: What levels of stress and burnout do special education teachers have?; What kind of factors interfere with these levels?.

7. Purpose of the Study:

The study is aimed at assessing stress and burnout in special education teachers and find out to what extent socio-demographic and psychosocial variables have a significant effect on those levels.

RESEARCH METHODS

This is a non-experimental, descriptive and correlational study which used quantitative methods. The (non-probability and convenience) sample is composed of 90 special education teachers located in the centre of Portugal. Data were collected between January and June 2014. The data collection tool used includes a questionnaire with questions for socio-demographic, professional and health characterization, a scale of assessment of levels of stress and burnout in teachers of CPB-R (Moreno-Jiménez, B., Hernández, E. G. & Gutiérrez, J. L. G, 2000, translated by Patrão & Santos Rita, 2010) and the scale of assessment of self-efficacy SES translated for Portuguese population by Pais-Ribeiro (1995).

All ethical principles inherent to scientific studies were followed and obeyed to.

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FINDINGS

Participants in the study are 90, in which 66 are females and 24 are males. The mean age of the total sample is 46.44 years, a standard deviation of 7.86 and a coefficient of variation of 16.92%, indicating the existence of a moderate dispersion around the mean. The mean age of females (44.73) is slightly lower than that of males (51.17) see table 1.

Table 1 – Descriptive statistics on teacher's age and gender

	N	*Min*	*Max*	M	*Sd*	*Sk/Error*	*K/Error*	*CV (%)*
Male	24	38	60	51.17	7.16	-0.83	-1.22	13.99
Female	66	30	59	44.73	7.43	-0.36	-1.34	16.61
Total	***90***	***30***	***60***	***46.44***	***7.86***	***-0.50***	***-1.60***	***16.92***

We also observed that most (66.7%) teachers are married, hold a bachelor's degree (82.2%) and master's degree (11.1%), and only 24.4% have specialized training in special education. The mean time of teaching service corresponds to 22 years for 65.9% of teachers and most (97.8%) carry out their professional activity in public schools. A mean number of teachers have 1 to 4 students with special educational needs and teach an average of 22 hours per week.

As for health, 11.1% of participants *took sick leave* in the previous year and 6.7% (all females) suffer from a chronic disease.

The outcomes obtained by means of the implementation of the CPB-R, which assesses stress and burnout levels, in this group of participants, show mainly the following: 80% of teachers are affected by *role stress*, i.e. stress arising from the duties related to their job; 60% do not feel *professionally fulfilled*, which reflects feelings of incompetence and reduced productivity at work, as well as dissatisfaction on a personal domain; 55.6% reveal *professional concerns* which manifest themselves during work, particularly lack of safety and continuity in their own job, among other concerns; 64.4% express a sense of *lack of recognition* in terms of performance. Findings also show that 35.6% of respondents suffer from burnout; 48.9% are under *emotional exhaustion* and 2.2% feel *depersonalization*; 43.8% complain about *supervision*, assessing in a less positive manner the type of direction and 46.7% mention the lack of *organizational conditions*, mainly in terms of available materials and resources.

As for self-efficacy, we observed that 33.3% of teachers have a high self-efficacy, 28.9% a moderate one and 37.8% a low self-efficacy, where women have the highest values (i.e. more positive self-efficacy).

The outcomes of the inferential analysis show that, regarding gender, males are the ones that have higher levels of role stress (49.58), greater emotional exhaustion (47.25) and higher depersonalization (47.0), whereas females have higher rates of overall burnout (46.8) and lack of professional fulfilment (46.68). Nonetheless, the statistical differences are insignificant ($p>0.05$). The comparison between teacher's age and burnout shows that the highest average stress levels (1.93) correspond to individuals over 51 years old and that statistical differences are very significant ($p=0.002$). As for burnout, there is an extremely significant statistical difference ($p=0.000$), where teachers aged between 41 and 50 have the higher mean values. Taking into account marital status, we observed that divorced individuals are those with the highest levels of overall burnout (64.21), when compared with married and single ones, with relevant differences ($p=0.010$) Regarding role stress, there are no significant differences among groups ($p>0.05$). The analysis of the correlation between the period of service of teachers and stress and burnout reveals that those with service times between 18 and 26 years have higher means (1.92; 1.53) in both domains, and that statistical differences are significant ($p=0.000$), when compared with those with 7-17 years and more than 27 years of service. We also observed that teachers who give lessons to students in the lower secondary education have a higher role stress (57.00) and burnout (59.90) ($p<0.05$). Similarly, teachers who experienced negative events in the last six months are more stressed (59.50) and burned out (63.88) than those who did not express them with significant differences ($p=0.018$; $p=0.002$). Self-efficacy is significantly associated to stress ($p=0.001$) and burnout ($p=0.000$), and participants with a sense of poor efficacy are those who are more stressed (54.50) and burned out (55.97). Likewise, teachers with a weekly schedule of 25 hours are more stressed (58.30) than those who work less hours. Nonetheless, in terms of overall burnout, teachers who work 22 hours/week are those with higher levels (57.40) with significant differences ($p<0.05$).

Conversely, it was found that gender, academic qualifications, specialization courses, professional bond and number of students with special educational needs did not have an impact on stress and burnout of these teachers.

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CONCLUSIONS

The study of stress and burnout of these teachers must be regarded as an individual, specific and variable experience in working contexts. Although the multiple notions of burnout found, there are, as we have seen, several common elements in all of them: the predominance of symptoms related to emotional exhaustion, fatigue, excess of work and/or depression; focus on behavioural and mental symptoms, beyond physical symptoms; the connection of these symptoms with work and the conditions under which this work is performed; varied symptomatic manifestations, with some implications on health and absenteeism; feeling of reduced efficacy and performance at work, due to work overload, the course of service time, and negative attitudes and behaviours. Stress is indeed considered as one of the indicators of malaise among teachers, because it was observed in Portugal that one out of three teachers feel that their job is stressful and one out of six feel emotionally exhausted. These data are strengthened by the outcome of our research. In spite of significant progress observed, we believe that studies and scientific research on stress and burnout in teachers related to special education inland lack a benchmark enabling overall assessment of theoretical grounds of philosophical, sociological, biological and psychological nature – to sum up, life in all its domains.

Therefore, based on the goals initially set in this research process, and considering them as the guiding principles behind this research, we drew the following conclusions: the socio-economic profile of our study's sample is mainly composed of females with a mean age of 46.44 years, married and with an average of two children; the professional profile is marked by a predominance of bachelor degree holders, without specialization, with a service time ranging between 7 and 26 years, most of them teaching in public schools. These teachers teach students in primary education and lower secondary education, support an average of 3 to 4 students with SEM and work for 22/25 hours per week; the health profile shows a healthy standard. Nonetheless, 11.1% of participants took sick leave in the previous year and 6.7% suffer from a chronic disease.

Professional overload found is marked by a high number of teachers under role stress, feeling lack of recognition and fulfilment, as well as with many work-related concerns. Furthermore, assessment of supervision, organizational conditions, emotional exhaustion, overall burnout and depersonalization, although mentioned, are areas with slightly lower levels. Self-perception of teachers on their overall efficacy varies between low and moderate in the vast majority of cases, with positive focus on efficacy in the face of obstacles. Correlations established among variables confirm that stress and burnout of participants in the study is more marked: in older individuals, divorced, who have worked during 18 to 26 years, teaching to students in the lower secondary education, with a weekly schedule of 22/25 hours, who experienced negative events recently and with a perception of poor efficacy. Conversely, it was found that gender, academic qualifications, specialization courses, professional status (bond) and number of students with special educational needs did not influence stress and burnout of these teachers.

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Sustaining Continuous Professional Development For Quality Teaching And Learning In Higher Education: The Role Of Policy And Policy Implementers

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ABSTRACT
Continuous professional development (CPD) is important for academics to improve the quality of their teaching and their students' learning. This paper reports the findings of a qualitative case study on CPD support at a Malaysian private university. It reports the perceptions of institutional leaders and academics on existing CPD support and how such support can be increased. Data was derived from interviews and teaching observations while factual verification was obtained through document analysis. Findings indicated the institution was supportive of its academics' CPD needs through top-down measures including policies and guidelines, and provision of different on-site CPD models. However, there were some gaps between areas of CPD needs and areas supported. One implication was that existing policy gap could be reduced through policy review and revision. Another implication was a need for academic heads to go beyond their role as policy implementers by identifying, initiating and supporting specific CPD needs at the departmental level.

Keywords: CPD, Higher education policy, quality teaching

INTRODUCTION
There has been a significant increase in access to higher education institutions (HEIs) in Malaysia in the last decade. Student enrolment in Malaysian HEIs in 2012 was 1.4 million, with 455,000 enrolled in private HEIs. (Ministry of Education, 2015). With the country's intention to become a higher education hub in the region, this number is expected to increase. By 2025, private HEIs are expected to have grown to accommodate the increase in student number, projected at 2.5 million. They are not only expected to grow, they are also expected to take the lead in providing HE access, especially for international students, surpassing public HEIs at 56% student enrolment (Ministry of Education, 2015). This is an indication of a positive change of perception towards private HEIs. In the past, private HEIs were often regarded as profit-making organisations that were impartial towards improving quality (Wilkinson & Yusof, 2005) due to its costly process (Tan Ah Mei, 2002). Now, they are regarded as genuine and strong contributors to the field, complementing the contributions of public HEIs (Wilkinson, 2015). With their important role, there is a need for private HEIs to find ways to improve the quality of teaching and learning provided because it is an important determinant to quality graduates.

"Quality of teaching" is a concept that often comes with multiple-meanings. In HE, what constitutes as quality teaching and what it takes for teaching to be considered as high quality is context, discipline and subject-dependent (Skelton, 2004). It is impacted by environmental factors even beyond the classroom (Linblom-Ylane, Negvi & Trigwell, 2011). Biggs (1999) proposed quality teaching as one that facilitates students' adoption of deep approaches to learning. Evidence also shows that increased deep approaches to learning has a direct correlation with higher class of awards for degrees obtained at undergraduate level (Trigwell, Ramsden, Prosser & Martin, 1999.) This means that lecturers would focus on students and their learning environment, motivating them to participate, engaging them, developing their independence and providing them with a supportive learning environment (Knight & Trowler, 2000). Quality teaching also means lecturers that are concerned with what their students actually do in the teaching and learning process and how the lecturers can facilitate their students' learning by engaging them in meaningful activities and assessments (Biggs, 2001).

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CPD and Its Role in Enhancing Teaching and Learning Quality

Teaching is not a natural talent. Lecturers do not learn to understand their students' conception of learning and how learning outcomes are achieved within the environment they are in by relying on their own experiences as students of higher learning. Just as students can opt for minimal, surface approach to learning, so can lecturers adopt a surface approach to teaching where they focus on themselves and what they do as lecturers, how much they need to cover and teach. As an institution, HEIs often recruit or promote teaching staff less for their excellence in teaching but more for other reasons which include their academic qualifications, publications and the research grants they can bring to the institutions (Partington & Stainton, 2003). Both of these situations point to the need for developing lecturers' pedagogical knowledge and skills. Lecturers need CPD that is holistic and addresses the progression of their thinking so that they could encourage development of deep approaches to learning in their students. Lecturers also need to develop these skills in relation to their subject area, the programmes and the institution that they are teaching in. In this respect, CPD for lecturers can come adopt different models (Kennedy, 2005), come in many forms for different purposes of development, and be formal or informal in nature (Park et.al, 2007; Ingvarson, Meiers and Beavis, 2005).

In supporting and sustaining CPD, private HEIs need to reflect and adopt the right approach. It is important that they ensure that they support the kind of CPD that have impacts at four levels: teachers' knowledge, belief and practice, and students' outcome (Lipowsky, 2004, cited in Roesken, 2011). This would ensure that they would be able to increase their graduate quality and promote staff retention (Ministry of Education, 2015). To achieve enhancement of teaching and learning quality through CPD, these institutions need to be reflective at three levels (Biggs, 2001). First, they need to be explicit about their espoused theories which influence decisions made about teaching. Next, they need to put in place built-in mechanisms which allow consistent assessment of current practices and how improvements can be made. Third, they also needs to take action to remove obstacles to quality teaching. The policymaking and policy implementation process within that institution should also assist in its continuous reflection and change (Soaib & Suffean, 2012).

THEORETICAL FRAMEWORK

Addressing the complex nature of CPD for quality teaching and learning in HE requires multiple factors to be taken into account. It needs to take into consideration students' learning needs, staff's development needs, institutional vision in the quality of graduates it intends to produce and their potential economic and social contribution to society. It also needs to take into consideration the resources that are available to the institution. It is probably through consideration of these multiple-factors that many HEIs developed their strategies for CPD and the policies and guidelines related to it. It is also through consideration of these factors that an HEI can review its current CPD support and provision in order to improve them.

Soft systems theory formed part of the theoretical framework for this research. Through application of soft systems theory, a systemic process of inquire was carried out to allow a better understanding of the situation and identify proper actions to be taken (Checkland, 2000). This research applied the appreciative systems theory derived from soft systems theory in order to understand how CPD for quality teaching and learning could be sustained within the institution. (Vickers cited by Checkland, 1994). The appreciation process involved: (1) selection from reality, i.e. relevant key ideas, stakeholders, action that had been taken; (2) perception of some aspects of institutional reality and making judgments about it, i.e. to what extent had action been taken to organise and implement CPDs and to what extent had the implementation of these CPDs actually helped lecturers improve teaching and learning; (3) contribution of ideas for modified or improved action that could solve the situation. The appreciative system is constantly open to further input based on the ideas and activities that are carried out in the appreciation process.

Situated learning theory formed the other part of the theoretical framework for this research. Literature identified four elements integral to successful CPD framework in HE (King, 2005). Firstly, CPD of all aspect of lecturers' role was normalised. Secondly, CPD modes were contextualised to the institution, the discipline and the lecturers' themselves, with the lecturers having autonomy in choosing which modes of CPD suited them best. Thirdly, the complex nature of CPD meant that it could occur in different settings, both formally and informally, involving different types of activities; therefore, it was important that institutional support of CPD recognised this complexity. The final element was inclusion of professional collaboration as crucial, involving conversations between lecturers with their colleagues in the same department, with lecturers in other departments and with those whose role were to support teaching. These four elements brought forth the relevance of situated learning theory, which views learning as something which occurs between people and is distributed through interactions that govern what is learnt and how it is learned (Putnam & Borko, 2000). Learning is influenced by physical and social context (Putnam & Borko, 2000; Cobb & Bowers, 1999) and therefore, knowledge that is gained is indivisible from the

context in which it was derived. Learning is "fundamentally situated" (Brown, Collins & Duguid, 1989). Knowledge is also seen as a co-product of an activity, context and culture within which it is being developed (Brown, Collins & Duguid, 1989).

METHODOLOGY

Research Design

This study adopted a qualitative case study approach to gain an in-depth understanding of the complex issue of CPD and CPD support within a private HEI, where multiple other factors have an influence on over it. The case institution selected is one of the oldest private higher education provider in the country. It was placed at tier 5 in the SETARA 2009, 2011 and 2013 rating, a Malaysian rating instrument which measures teaching and learning quality (MQA, 2015). Purposive and snowball sampling were used to select research participants. There were 14 participants. Three were professors who formed part of the institution's senior management, another 3 were a professor and two associate professors who were part of their faculty's management team and heads of at least one department within their faculty. Another 8 were novice and experienced lecturers holding the position of either lecturers, senior lecturers and one associate professor.

Data Collection and Analysis

Semi-structured interviews were conducted and audio-recorded. A naturalised approach to transcription which focused on informational contents of the sessions was adopted (Oliver, Serovic & Mason, 2005). Idiosyncratic elements were removed. Transcriptions were validated through member checking (Cresswell, 2013). Themes which emerged were then identified and categorised.

Research Questions

1. What are the lecturers' perception about their CPD needs to improve teaching and learning?
2. What are the participants' perception about the institution's support for CPD for quality teaching and learning?
3. How can CPD support for enhancement of teaching and learning quality be improved?

FINDINGS AND DISCUSSION

All names used to refer to participants in this section and the discussion section are pseudonyms.

The meaning of quality teaching and learning in the context of the case institution

All the participants had similar perceptions to the meaning of quality teaching and learning in their context. They identified four factors which contributed to quality teaching and learning: (1) the curriculum, (2) the lecturers, i.e. the knowledge and experience that they brought to the classroom, (3) provision of learning opportunities that went beyond the classroom, and, (4) teaching, learning and technological resources available to them.

Lecturer and student indicators of quality teaching and learning

There were ten indicators of quality teaching and learning that participants perceived to be identifiable in lecturers and their teaching. The ten indicators identified were: (1) content mastery, (2) pedagogical knowledge, (3) skilful teaching, (4) clear expectations, (5) coherent delivery, (6) connection and application to real life, (7) passionate and engaging, (9) quality assessments, (10) support for learning, and, (10) inclusiveness.

In addition to the ten indicators observable in the lecturers and their teaching, there were seven student indicators of quality teaching that were identified. These were: (1) attainment of learning outcomes, (2) good exam performance, (3) criticality in thinking, (4) internalisation of values, (5) application of learning, (6) problem-solving, and, (7) contributions to society. Some of these indicators could be observed during the course of the semester teaching and at the end of the course. Others could only be observed later.

Perception of CPD needs to improve teaching and learning

All lecturers identified almost similar areas of CPD needs for the enhancement of their teaching and learning. However, what they needed to develop within those areas had a slightly different focus. Both novice lecturers and experienced lecturers identified 'content mastery', 'pedagogical knowledge and skills' and 'student engagement' as the three main areas for development. Novice lecturers were concerned with building their knowledge and skills in these three areas to a level that they perceived to be adequate in order to teach reasonably well. They felt that their existing knowledge and skills were insufficient. In contrast, experienced lecturers reported that they had experienced similar needs when they were novice lecturers themselves. However, at the present stage of their career, they had already reached a level of content mastery and were confident with their pedagogical knowledge and skills. Their needs for these three areas had shifted, focusing more on enhancement rather than building a

base. For content mastery, experienced lecturers reported confidence in their existing content knowledge but also reported the need to keep current with latest research and development in their discipline and industry. In the area of pedagogical knowledge and skills, they reported the need to enhance existing skills and explore newer approach and teaching tools that could help their students learn better. In the area of student engagement, both novice and experienced lecturers shared the same amount of concern of concern. They all shared the concern of engaging students from different generations who were hyper-connected and easily distracted. Novice lecturers needed to develop their skills and strategies in engaging their students. In addition to that, with increasingly diverse student population comprising of local and international students from various countries, increasingly larger classes, all lecturers identified student engagement as an area that they needed to develop and improve further.

Existing institutional CPD Support for enhancement of teaching and earning

It was found that institutional support for CPD was most visible at two levels – at institutional level and at departmental level. Additionally, it was found that institutional level support focused mostly on formal forms of CPD which fitted with 6 out of 9 CPD models identified as the most common forms of CPD supported by HEIs (Kennedy, 2005). The 9 models identified by Kennedy were award-bearing, training, standards-based, cascading, action research, deficit model, communities of practice (CoP) and transformative model (a model which combined two or more of the earlier models). Of these, institutional level support focused on the following 6: award-bearing, training, standards-based, cascading, action research and transformative model. Support for CoP at this level was newly initiated and still at its infancy. Examples of CPD activities fitting with these 6 are illustrated below.

Support at institutional level

At institutional level, active support was available for some postgraduate qualifications, for example masters' degree and especially PhD as well as a postgraduate certification in academic practice (Award-Bearing Model). The support was evident in policy and guidelines which described the form of available support, i.e. financial, time and in some cases, the provision of the programmes themselves. However, there were other postgraduate qualifications viewed to be important by lecturers to enhance their teaching which were not supported. One example is professional exams related to a technical discipline area.

In collaboration with its' international partner which was ranked in the top 1 per cent for research and teaching (University Rankings, n.d.), the institution provided a development programme aimed at improving understanding of quality assurance and quality enhancement processes for teaching and learning. Lecturers from each of the faculties had or would have an opportunity to participate in this annual programme held at the international partner's campus and upon their return, shared their experience and what they had learned in a sharing session (Transformative Model – combining Training, Standards-Based, Action Reseach and Cascading).

There was also clear support at institutional level for local and international conference presentations based on scholarly activities or research work (Transformative model - with varied model combinations). Financial and time support for such activities were evident in the relevant institutional policies and guidelines. As part of the requirements, conference presenters had to present their papers internally upon returning, thus expanding this CPD activity (Cascading Model). Participants reported that such support was important to their development and that whether they presented on specific research on teaching and learning or on their discipline area, with purposeful reflection and application, it led to enhancement of their content mastery which led to enhancement of teaching. Steve, for example, reported that as someone relatively new to teaching, he gained a lot of knowledge from presenting his own research and listening to others share what they had done. It gave him opportunities to participate in professional conversations on his discipline area which gave him ideas that he explored in his own teaching.

In addition, through its Teaching and Learning Unit, the institution also provided a series of formal training sessions and workshops that aimed towards improving teaching and learning. Some of these workshops included workshops on Outcome-Based Education or OBE (Training Model), curriculum development and assessment strategies (Transformative Model -combining Training and Standards-Based models), classroom and student-management, reflective teaching, problem-based learning and experiential learning (Transformative Model - combining Training, Cascading and Action Research). Some of these workshops were facilitated by Malaysian and or international experts in the area while other workshops were facilitated by the institution's own experienced academic staff recognised as champions of CPD in their areas. The Teaching and Learning Unit also facilitated institutional support on a community of practice which focused on blended learning. However, this was still relatively new.

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Support at departmental level

All department heads and lecturers agreed that CPD should occur more at departmental level. At this level, support for semi-formal and informal CPD was found. It involved one or more of the following: (1) CPD activities initiated and supported by department heads, (2) CPD activities initiated by staff and supported by department heads, (3) collaborative initiation and sustainment of CPD activities by department heads and staff. The models of CPD supported at departmental level were coaching, mentoring, communities of practice, action research and transformative models.

Despite their support of the CPD choices of their subordinates, as governed by institutional policies, two of the heads of department were more active than the third, in initiating CPD activities for the specific purpose of improving teaching and learning. This could be linked to the demography of their subordinates, where the heads positioned themselves in relation to teaching, and what the department heads perceived to be needed for their staff to develop their teaching.

Professor Alan and Associate Professor Wendy both had "very experienced" and "very good teachers" in their departments but at the same time, also had novice lecturers with little to no experience when they joined the department. With more than 30 and 20 years of experience teaching in Malaysia and internationally, they viewed leadership, support and provision of professional development opportunities within the department as a crucial aspect of their role as the head of department. They used existing quality assurance processes such as moderation of coursework and final exam papers, marking and second-marking of answer scripts to initiate informal CPD activities by pairing novice and experienced lecturers to work together (Transformative model – combining cascading, standards-based and action research). Through the discussions and feedback exchanged between both parties, lecturers could improve their assessment strategies and this could lead to reflection and improvement of teaching and learning strategies and teaching materials.

Both reported their own active engagement in developing their staff (Mentoring/Coaching models). However, both had not actively promoted CPD within their departments through peer observation or co-teaching although they supported staff who wanted to carry out teaching observation of their peers and had previously assigned two lecturers to co-teach a subject for functional purposes. Both viewed this as a sensitive area which had to be dealt with carefully so that signals, intended or otherwise, were not sent to others that one party was lacking in some ways and needed to be taught by the other. As stated by Wendy:

> I start with moderation first, you see. So they don't feel it. The co-teaching thing, some people may be very defensive. Some people get very threatened because they feel, "What if in the midst of co-teaching, people discover I'm not so good?" You know, all the insecurities, so you've got to be very diplomatic and scientific about it. So it starts with moderation. So I pair them with moderators who are, let's say my X's [teaching] score is below three, I will pair X and Y who has fantastic teaching [score].

Associate Professor Simon viewed his teaching staff as being equally strong in teaching. In relation to the need for CPD for improving teaching and learning in his department, he stated:

> I think generally, there's not, no major complaints but, I mean, to me, no complaint does not mean that there are no challenges. But I've gone in and observed some of them, most of them. But after observing most of them, I think generally our lecturers are okay…. We are all competent, you know. Some are more competent than others but I don't see anybody incompetent.

While acknowledging that there were areas of development needed, Simon viewed such developments as a departmental need requiring lecturers to break away from their existing mental model about teaching in order to be more creative and explorative in their teaching. He cited the changing student demography and increased class sizes as reasons for doing so. He viewed himself, as the head of department, as the one to lead this effort but were constrained by his teaching and management responsibilities.

Two lecturers in another department reported that most lecturers in their department were engaged in two communities of practice that were subject specific and with overlapping participation. These CoPs, one initiated and facilitated by Siti, another initiated and facilitated by Steve with Siti's mentoring, resulted in active participation by lecturers teaching the subject and were viewed by the participants as successful in addressing administrative, teaching, learning and assessment concerns they had in a collaborative and supportive manner (Transformative – combining CoP, Action Research and Cascading). In addition, through the initiation of their head of department, peer collaboration in the form of peer observation and co-teaching for mutual learning was a normalised CPD practice (Transformative – combining Action Research, Mentoring, Coaching). Steve and Siti also reported their department head facilitated this by addressing relevant systemic issues such as class scheduling and workload allocation. Although their heads would introduce complementary partnerships to facilitate collaboration, lecturers in the department were encouraged to choose CPD activities which worked for them.

Although members of 4 departments reported mostly active level of CPD initiation and engagement, a member of a 5th department reported a contrast. Diana felt that pursuit of professional development in her department was very much an individual process, with her head of department focused on administrative issues and other concerns within the department. While she had the option to choose her own CPD activities as provided for by the institution, she also had to ensure that they did not interfere with her responsibilities within the department, as required by her head of department. Although there was very little CPD activities to enhance teaching and learning, Diana considered that there were still many CPD opportunities based on the workshops run by the Teaching and Learning Unit.

Improving Institutional Support, the Role of Policy-Makers and Policy Implementers

In general, all participants were of the view that the institution was very supportive of CPD for improvement of teaching and learning. Of the 9 CPD models commonly used in HE, support was given in different forms and at different levels, for 8 of the 9 models. Department heads and the university's senior management chose to take a positive approach to CPD and therefore did not support the deficit model, in which a lacking in certain areas were identified and then formed part of a CPD curriculum. CPD activities were organised to meet lecturers' and institutional needs but some sensitivity in this area resulted in these activities being viewed and promoted as developmental activities. In addition, the institution appeared comprehensive in its support for CPD. Improvements in CPD support were still possible, after careful consideration of the multiple factors involved, including the institution's financial resources.

Firstly, there were some areas in which policy revision was needed. In accordance to that, some guidelines and implementation strategies needed to be reviewed. One of these areas was in relation to CPD support for award-bearing, postgraduate qualifications. Participants felt that to improve the quality of their teaching, PhDs were beneficial for some but not for others. Michael pointed out the need for him to take professional exams because his area was a technical area and by having sat for and passed the professional exams, he would have been able to guide his students better. Part of his programme's learning outcomes was for the students to obtain their degree and pass their professional exam. Yet, the institutional policy did not include such CPDs. This prevented him from obtaining financial support, despite his head of department's attempt to promote a change.

Secondly, while policy for conference participation and presentation were generally viewed to be good, there were areas that needed some revision and flexibility. One was that the amount of financial support given for international conference. The amount that was allocated for international conferences, especially those that were held outside South East Asia was viewed to be inadequate. As Professor Alan stated:

> There's some obviously good policies in terms of the research support although the funding is, is poor. You know, you can't / The ringgit is not [a] strong currency. You can't, you know, if you want to build your reputation and you want your staff to feel good about their achievements and they want to go to the conference in their area that happens to be in Paris, they need to be able to do that without it costing them personally.

Another area for reviewing is the funding of one author only for conference presentations and funding for conference participation without a presentation limited to within the city or the state. Novice lecturers like Steve found that conference attendance beneficial to their learning as they were able to network, participate in professional conversations about teaching and their subject area. Conferences in his subject area were not always held within the city or state, and the requirement to present made this type of CPD very challenging for a novice. He stated, "… that TEFL conference that I went to. There's so many interesting sessions but it's a very big hurdle. I have to do research and present."

Thirdly, it was recommended that a policy that made it mandatory for novice lecturers and new lecturers to attend certain CPD modules as part of their probation requirement be introduced. This meant that lecturers who did not meet this requirement will not gain confirmation of their position. At present, these lecturers were encouraged to attend some basic modules, especially novice lecturers. However, there is nothing that compels them to do so. Since novice lecturers were the ones reporting more CPD need for basic knowledge and skills, the institution needed to ensure that such needs were addressed through its policy. Such a policy would also benefit lecturers who were new to the institution but had some teaching experience at other institutions. The uniqueness of one private HEI from another, i.e. different focus, different disciplines, different student demography meant that there would likely be differences in the ways to achieve quality teaching.

In connection to the above, time for professional development for lecturers new to teaching or new to the institution could be built into their workload. As an example, some gap in the time that the lecturers started work at the institution and the time when they were required to teach would enable them to attend some formal CPD modules

as well as participate in other CPD activities either at departmental level or individual level. Alternatively or in addition to this, one day per week could be blocked for CPD activities, at least for the first six months prior to their confirmation. The teaching and learning unit, therefore, would need to ensure that at the very least, their basic CPD modules were offered more frequently to fulfill the needs of new lecturers hired throughout the year.

Fifth, the institution's Teaching and Learning Unit could solicit more comprehensive feedback from faculty members regarding their CPD needs in order for their programme offerings to meet the needs of more staff. All the senior members of the university management team, the heads of departments and most of the lecturers interviewed agreed that the institution had various internal talents who were experienced in teaching or their content area or both. While university's senior management saw these talents' involvement in internal CPD activities, other research participants felt that these internal talents were under-utilised and their strengths not tapped into. Doing so would enable more CPD activities that were concrete, based on the lecturers' teaching and learning needs and immediately applicable to their teaching situations to be organised.

Sixth, improvements of CPD provision needed to be evidence-based. Data related to the extent that teaching and learning activities were actually improved and sustained was needed. At present, participants indicated that data on perceived effectiveness of formal sessions held in relation to the facilitators and the contents were available through participant feedback form distributed and completed at the end of each session. But to what extent these sessions led to teaching improvements was under-reported. If knowledge and skills gained from CPD activities did not result in changed / improved teaching practices, this gap needed to be addressed. If it did, the information could be shared with others,

Finally, given the high value of CPD activities occurring at the specific departmental level, the role of departmental heads as the leader, driver and champion of CPD needed to be made more explicit, and not left to the discretion of individual department heads, as evident in the case of the 4 departments with active CPD level and 1 department which had yet to achieve it. While the 3 department heads had gone beyond their role as policy implementers to champion CPD initiatives in their department, another had not. When the role of department heads as the leader, driver and champion of CPD is made more explicit, with possible policy and guidelines, CPD activities at this level would be more consistent and not left to individual awareness. However, some department heads may need their own CPD support to enable them to champion the enhancement of teaching and learning quality through CPD located in their departments.

Challenges in Making Improvements

Of the seven recommendations given above, some may be easier to implement than others because they were also dependent on the institution's financial and manpower resources. In addition, while CPD for enhancement of teaching and learning quality was an important concern, it was not the institution's only concern. As a young university aiming towards becoming more recognised and better ranked in the local and international ranking system, the institution's senior management needed to be careful so that all areas of development needs were similarly supported. While there was a general recognition that institutional support for CPD had improved and should continue to improve, increased financial support in some areas might not be the decision that the institution itself wanted to make.

Quite understandably, the institution might have chosen to support CPD areas in which both the staff and the institution stood to gain more. A case in point was the support for PhD but not for professional exams. Given that they needed to manage their finance better and make it stretch further, supporting PhD would increase the institution's staff strength and PhDs count in all important ranking systems. PhD holders gain knowledge and skills in research, with the expectations to conduct research and publish papers. Again, research undertaken and paper publications count in all important ranking systems. The same could not be said about professional exams. Another case in point is providing funding support for a conference presentation to the first or one author only, for papers with multiple authors. This was a conscious decision by the institution to ensure that the amount of fund spent should correlate to institutional gains.

CONCLUSION

The case institution offered strong support for CPD both at the institutional level and at departmental level. Both heads of departments and lecturers reported that the CPD activities that they had chosen to engage in were beneficial to the improvement of their teaching practices. With evidence of the extent to which improvements had occurred, the institution, whether through the initiative of its Teaching and Learning Unit or through CPD champions would be able to identify and strategise ways in which CPD provision could be improved. Revision of relevant policies and guidelines in order to accommodate lecturers' CPD needs while taking into consideration institutional needs and constrains would also enable more systematic and inclusive support for CPD at the level

that it needed to be supported. Beyond policy revision and changes, policy implementers could also explore ways in which opportunities for CPD could be created and sustained because policies cannot and should not prescribe everything. Finally, it needs to be reinforced that although CPD and CPD support are complex but necessary, they are among the many things that a young university needs to review and change for the better. As such, any form of changes need to be problematised and discussed by the stakeholders, and not be too drastic that they result in the institution being restricted from developing other areas.

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Systems Understanding. Where We Are? A Look Into Science Teacher Education

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ABSTRACT
As educators we have the tendency to compartmentalize content into units for the purpose of simplifying things. While this approach seems logical it also cripples our ability to develop a system understanding and see complex relationships. With this limitation in mind this study focuses on an ecosystem design activity and explores its impact on students systems understanding. The activity uses modeling approach and requires students to design and build functional closed ecosystems with terrestrial and aquatic components. Findings suggest that while participants successfully develop an understanding on photosynthesis and respiration thus water and O2 and CO2 cycles they struggle with other cycles in nature as well as the interactions within and between systems.

INTRODUCTION

The world we live in is consist of many systems, some natural and some men-made. Regardless their origin all of these systems share complex relationships and dynamics within and between its subsystems. Ben-Zvi Asaraf & Orion (2005) identifies a system as "A system is an entity that maintains its existence and functions as a whole through the interaction of its parts" (p519).
Understanding such complex systems is necessary for every individual to be able to solve real world problems (Hmelo, Holton & Kolodner, 2000) in social, professional and personal life (Evagorau et. al., 2009). One of the tools utilized in successful decision making and problem solving is system thinking (Hogan, 2002). However, contrary to the need of such understanding and necessity of skills there are two significant obstacles to it. For one, our tendency has been to compartmentalize things and look at them in a divided manner rather than making the big picture visible. The way we perceive things are generally from a simplified or compartmentalized view. Same approach is also adapted by educators in teaching. The tendency is to approach content in sections or units. While in practice this may seem logical in reality it makes it difficult for learners to grasp the system nature of content, the interactions and complex dynamics. Thus may affect their problem solving ability. Second obstacle identified by Feltovich, Coulson & Spiro is the counterintuitive nature of system understanding due to the working memory load (as cited in Hmelo-Silver & Azevedo, 2006).. Hence it makes it difficult to develop a system understanding easily.

Different disciplines, medicine, biology, robotics and education in general, focus on the importance of systems thinking. (Hmelo-Silver & Azevedo, 2006; Sweeney & Sterman, 2007; Sullivan, 2008). Its effectiveness as well as importance at different age groups is explored. Applications of systems biology in higher education goes back to approximately two decades in United States though it has a much recent history in Europe. There are also studies that focus on development of system understanding in early grades (Evagorou et. al., 2009).

Contrary to the need of having a systems understanding it is quite a challenge to develop one.
In 21st century in terms of public awareness environmental education receives a significant emphasis for the purpose of having a better understanding of environmental issues. A coherent understanding of environment is required for healthy decision-making on environmental issues (Ben-Zvi Asaraf & Orion, 2005). Such understanding may be acquired through systems education. Having a coherent understanding of ecosystems, element cycles, food webs and how sub-systems function within and interact with each other would allow a person to appreciate the environment they live in and adjust their living habits in a way that is peaceful towards environment.

Perkins (1986) proposes "considering knowledge ….as a design" (p.3). When this approach is adapted into education students should approach pieces of knowledge according to their goal and move beyond memorization. Research promotes system thinking as an essential component in science learning and investigates its effectiveness focusing on different age groups. (Hmelo, et al., 2000; Hogan, 2000; Ben-Zvi Asaraf & Orion, 2005). But the limited number of studies should also be pointed out on the topic as well as limited implementation of system teaching into the curriculum. Hence this study aims to investigate the impact of a design activity as a part of ecosystems unit in biology education. The research question explored was "How designing and building a functional ecosystem affect students system understanding?"

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THE STUDY

This study was exploratory in nature investigating the impact of designing functional ecosystems on participants' understanding of systems as a part of the Biology II Laboratory course. The laboratory course is aligned with Biology II theoretical course and consists of content on ecosystems and biological systems (i.e. circulatory system, respiratory system). The design activity subject to this study only focuses on the first section of the lab, ecosystems, though the length of the activity is extended to 11-12 weeks including design, set up and observations. The laboratory course is offered weekly following the theoretical course. Each week's content is initially covered in the theoretical course then lab sections take place. As a part of the lab course students were asked to build a self-sustaining ecosystem with aquatic and terrestrial components. Students worked in groups of 3-4.

The task of designing and building a self-sustaining ecosystem was completed in 3 phases. First phase consist of designing the ecosystems and identifying components and their relationships. This phase was completed on paper and discussions took place for couple weeks during the laboratory sections. Once the designs were revised and refined and students were comfortable with their designs, first phase was completed. Total length of the design phase was four weeks. Students were provided with guiding questions during the process. Following the first phase, construction phase started. The construction phase was one week long. Each group provided materials necessary for their designs and constructed their ecosystems during the laboratory. Students conducted observations of their ecosystems and were asked to keep a journal reflecting their observations and taught processes as phase 3 started. Observations, phase 3, lasted 7 weeks. At the end of the activity students were asked to discuss their designs in relation to their predictions and observations and turn in an individual final report.

METHODOLOGY

Participants of the study were second year pre-service science teachers who were enrolled in Biology Laboratory II course. A total of 64 students participated in the study. Out of 64 students, 15 of them were excluded from the analysis due to missing data. Data from 49 students were analyzed.

Students' designs, journals including weekly observations and final reports were analyzed to investigate students understanding of ecosystems. Document analysis was used for the purpose of analysis of the content and identification of emerging themes. General Systems Theory outlined by Boersma, Waarlo & Klaassen (2011) was used as a starting point of the analysis. Based on the theory, characteristics of an ecosystem were identified, and then revised as perceived by students and additional themes were included as they emerged. Each student in a group reported designs identically. However, weekly observations and final reports were found to be differing between group members.

FINDINGS

Ecosystems consist of dynamic and complex relationships and interactions within and between sub-levels including element cycles, energy flows and food chains. Students were expected to take these relationships and interactions into account in their designs and aquatic and terrestrial ecosystems were expected to interact. Except one group all groups identified only one possible way of exchange between aquatic and terrestrial ecosystems and that was water being transferred through a string, which is shown in figure 1. One group, however, included straws into their designs for air exchange as well, which is shown in figure 2.

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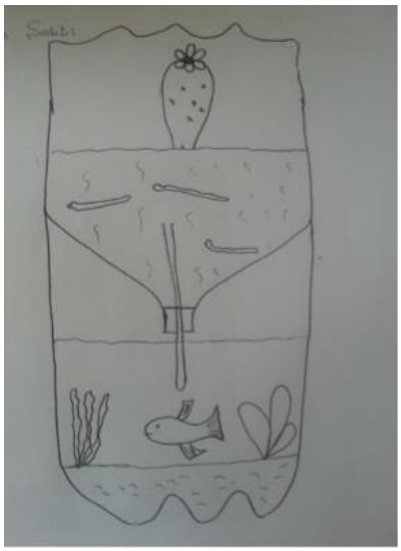

Figure 1: Design with string allowing water exchange

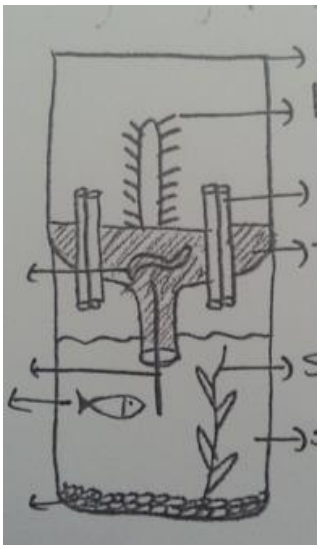

Figure 2: Design with string and pipets allowing water and air exchange

When student designs from phase1 were analyzed it was found that almost all of the participants were able to base their designs on:

1- Plants need CO2 for photosynthesis and in return they will produce O2.
2- O2 produced by plans will be used by other living organisms.

These two statements were provided for both aquatic and terrestrial ecosystems.

For terrestrial systems the components were soil, plant, earthworm, and insects. Only one group used ants and other insects in their designs that they've collected outdoors. Two groups defined the soil of their choice, potting soil, as it includes more nutrition for plants. The choice of plant between groups varied: from cactus being resistant to drought, to bean sprouts because they provide "....*N cycle*" [S29].

For aquatic ecosystems the components were water, sand, rock, aquatic plant such as elodea and fish. The choice of species varied among groups on several factors while some groups used less abiotic factors in their designs. Fish choice was based on nutritional needs and resistance to harsh conditions. Majority of the groups choose beta fish, as they are known to survive low oxygen environments with ability to use air in case the amount of dissolved oxygen is low in the environment. Interesting factor found in students' designs was the rationale students used to choose the species of fish. They were mostly focusing on species' resilience to hunger rather than designing an ecosystem that can meet fish's nutritional needs. While some groups completely ignored the nutritional needs in their designs, some groups failed to recognize nutritional needs specific to their choice of fish. Beta fish is known to be a carnivore and it was the most common choice among groups. One group stated adding fish food at the beginning to give the fish a chance of survival since the ecosystem will be closed and there will not be any food . Members of group 12 stated that although they planned they couldn't find *Artemia* to add to their design as a food source for the fish. Another group's choice of fish was catfish since "……*it is herbivore and resistant to hunger*" [S21]. Other groups assumed beta fish will eat elodea and some added moss as a food source for the fish. In final report one of students stated the need for "…choosing a species [fish] that is herbivore for the vitality…[S7]. This statement shows recognition of species' specific nutritional need.

In terms of feeding habits and food web, except one none of the groups were able to build food chains with 3 or more organisms in aquatic systems. However in terrestrial systems food source for earthworms were taken into consideration and included in the design. Students' designs were found to be very linear and limited in terms of nutritional design. Main focus was finding a species that can survive hunger for a long period of time. Regardless the designs, the written statements were indicating an understanding on the matter among students.

Most of the students did not explain choice of water plant beyond its use of CO2 and production of O2 in photosynthesis. However, eleven students commented on Elodea being able to regulate water chemistry. Two of these students also commented on fish wastes accumulated in the environment especially and elodea being capable of balancing the environment. These two students were the only ones talking about waste issue in the ecosystems.

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Light was also discussed by students in group 11 and where their ecosystem should be placed in the laboratory in relation to maximizing the efficiency of photosynthesis and production of algae.
When journal entries were analyzed for each student, one of the common trend found was reports on health of the ecosystem. Students were reporting how healthy looking their fish, plants, earthworms, and insects are and were also commenting on water quality as well as soil humidity. Some of the comments include:

> "On the 4th week life in terrestrial ecosystem started to slow down since plants were not getting enough day light and oxygen. In addition there wasn't sufficient food" [S9].
> "…fish is healthy, its color is good and moving around…"[S34].
> "…fish is not looking healthy, pieces are falling off from the tail. Based on my research I've learned that this is common due to change in water quality meaning pollution, unbalanced N cycle and fluctuations in pH and temperature" [S12].

Some of the students also commented on the other element cycles taking place in the ecosystems but these were limited to simple statements. Most extensive comment belonged to S12, presented above. In addition students were also stated observations on precipitation and evaporation though the accuracy of terminology used and explanation of causes were limited.

CONCLUSIONS

There are couple outcomes of the study shedding light on the impact of this design activity as a part of the curriculum. First of all integration of design activities into curriculum give students opportunities to critically think on the content beyond mere memorization of the facts. To be able to design a functioning ecosystem they need to have a solid understanding of dynamics and complex relationships. An unsuccessful failing ecosystem, as much as a self-sustaining one, would give them opportunity to question what was wrong in the design and investigate how can it be corrected.

Through this activity students got a chance to employ learned concepts of ecosystems to create a functional design. Observations allowed them to see how successful their designs were. They needed to answer the "why" question if something was failing. Hence they had to inquire what seemed to be failing in their designs. These may be issues that they wouldn't think about in a regular lecture based teaching approach. Upon their inquiries they were expected to come up with a solution.

The analysis of the designs, observations and final reports suggest that students were trying to come up with solutions they were facing in their designs. Some students were identified to be more successful in the process. Guiding questions can be restructured to support all the students.

Based on the data and outcome of the ecosystems designed by the students, it can be determined that students had difficulty designing functional self-sustaining ecosystems. Although they seem to understand concepts of photosynthesis, use of CO2 and O2 and light their designs failed to sustain themselves. This outcome indicates limited systems understanding, how dynamic and complex relationships and interactions within and between sub ecosystems take place among students. sIn addition, their understanding of element cycles and food chains were found to be limited based on the references made in the reports.

One of the challenges for students was not exactly knowing what kind of changes were taking place in their ecosystems since no real data was accompanied their observations. The changes of the amount of oxygen, carbon dioxide, light or ph was abstract for them and they were trying to make educated guesses in terms of why such changes occur and what would be the solution. Regardless of the challenges using design activity was found to be a productive approach in teaching systems nature of ecosystems as it promotes critical thinking and allowing students to make use of their theoretical knowledge.

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Teacher Views On School Administrators' Technology Leadership Competencies

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ABSTRACT
This study aimed to identify teacher views on technology leadership competencies of school administrators working in state and private elementary education institutions, and offer suggestions to authorities in this respect. The population of the study consisted of the teachers working in state and private elementary schools in the Beylikdüzü district of İstanbul in the 2013-2014 school year. The sample included 110 individuals who were selected through simple random sampling among the teachers constituting the population. To identify the teachers' views, "Technology Leadership for Educational Administrators Scale" was used, and its Cronbach Alpha reliability coefficient was calculated as 0,95. In overall, the results revealed that the teachers agreed on the statements in the scale at the level of "never" with a low arithmetic mean ($\bar{X}$=1.72). This finding can be interpreted as that the school administrators never acted as technology leaders to the teachers. The teachers stated that the school administrators had a positive attitude towards technology, but they did not benefit from school staff, parents and students to enhance the capacity of the usage of information technologies. It was concluded that in order for technology leadership to be institutionalised, cautions that enable administrators to use their positive attitudes in practice should be taken. Based on this result, it is suggested that school administrators should be encouraged to pursue a postgraduate degree, and regulations should be made to enhance the participation of all stakeholders of the school to decision-making processes related to the use of information and communication technologies at school.

Key Words: Technology Leadership, School Administration, Principal, Elementary Education, Technology Leadership Competencies.

INTRODUCTION

The concept of technology can be defined as physical and mental tools that are used to turn the input of an organisation into output. Because organisations having input-output relationship are seen as an necessity of a systematic approach, using technology in teaching and administration activities in all organisation is a natural result of this process.

Educational institutions should not stay behind technology in this process due to paranoia of commitment to traditional methods, and should use technology synchronously. However, in some cases, traditional educational system cannot always be sufficient in the face of technological developments. Individuals whose educational needs cannot be met by traditional educational systems can go towards alternatives to meet these needs and make different requests. These requests of individuals are addressed by administrations and internet-based teaching methods can be applied that use computers and technology that eliminate time and place limitations, ensure equality of opportunities, and are in accordance with student-centred teaching approaches (Gülşen, 2014: 228-241; İşman, 2011b: 136-142).

In this process, education and technology are seen as two basic elements that have an important role in improving human life. Both elements have been two basic tools that humans referred to in their efforts for being dominant in their natural and social environment. Education serves as revealing the latent powers and abilities of individuals from birth, and ensuring their development as more mature, creative and constructive creatures. Technology helps individuals to effectively use the knowledge and skills they gained through education and apply these more systematically and consciously. In this way, education and technology have affected people's perfection, acculturation and development, becoming active and dominant against their nature and environment (Banoğlu, 2011: 199-213). Education can be more determinant in enhancing the power of this effect, which is closely related to the degree of technology it uses.

The use of technology in education arose the concept of educational technology. Educational technology is accepted as a discipline that help educators apply the necessary knowledge and abilities more consciously to produce adequate tools for using the knowledge and skills that they gained through education in a better and more effective way and meeting their needs (Banoğlu, 2011: 199-213; TDK, 2015:1).

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Technology applications being increasingly used as an organisational requirement makes instructional design a necessity based on information technologies. This necessity becomes more crucial with the demands of administrators, teachers, students and parents. This situation requires to be thought not only as technology contributing to the development of schools, but also a process that will enable the change and development of societies with a sociological perspective (Abazaoğlu, 2014: 3; Banoğlu, 2011: 199-213; Görgülü, Küçükali & Ada, 2013: 53-71).

Technology applications being increasingly used makes instructional design a necessity based on information technologies in education. This necessity also evoked the Ministry of National Education, and the Directorate General for Innovation and Educational Technologies was founded. Many educational technologies and practices such as MEBSİS (Ministry of National Education Information Systems, e-school, Computer-Assisted Instruction, Internet-Assisted Instruction, Computer-Based Instruction, Internet-Based Instruction, Distance Education, Special Package Programs, Instructional CD's, Teleconference Methods and Multimedia Projection Devices started to be used in the central and field service centres of the Ministry (Gülşen & Gökyer, 2015: 71, İşman, 2011b, 136-142, Ministry of National Education, 2015: 1).

The existence of such a large number of technological applications also necessitates the ministerial works to be competent in terms of technological equipment. The technological competencies of ministry official, especially those at an administrative position, would be effective in this change and the institutionalisation of this development. For this reason, technology competencies and leadership of all educational administrators in general and elementary school administrators in particular seem to be crucial for the institutionalisation of change and development in parallel to the development of information technologies. This institutionalisation also requires to lead the social change. As there is a close relationship between innovation, production and centres of using new technologies, and this relationship can be adopted by employees, the transformation of the society would be rapid accordingly, and the effect of social conditions on further innovations would be positive (Castells, 2005: 87–89; Helvacı, 2008:115-133). Computers are the most widely used technologies in education. The ground-breaking development and advances in the information technologies in the 21st century have made computers an indispensable need in all areas of our life. Because of the multifaceted substructures of computers, their characteristic of making our life easier cannot be denied. This multifaceted characteristic and the capability of accessing information through the Internet have made computers indispensable for our education system. By presenting students an interactive and student-centred learning opportunity, computers have urged individuals to take the responsibility of their own learning and have an idea of their learning skill. On the other hand, administrators also have to take a technological responsibility due the intensity of technology usage in administrative processes. The increase in the technology usage of administrators, employees and students necessitates computers and other information technology devices to take the place they deserve at our schools (Helvacı, 2008:115-133; Kayan, 2015: 79-80).

In order for new technological applications to be successfully used in educational institutions, the change should be facilitated, effort should be made as it used to be, and it should be tried to achieve the goal in a faster, more efficient and useful way. This necessity also requires to have some durable and sufficient advantages to overcome the resistance to the change (Kayan, 2015: 2; Kesim, 2011: 6; Mainstone & Schroeder: 1999, 630–631; Özgür, 2013: 170). School administrators have a big influence in the contribution of these advantages to educational institutions to the largest extent. This is because the primary individuals who would enable the effective use of these advantages at schools are school administrators (Kayan, 2015: 2-10).

Administrators who are provided with the new tools and opportunities in accordance with the requirements of the age face different questions regarding the issues of how they can administer their schools better and develop their performances. With a vision supported with a good level of technology knowledge, school administrators are expected to develop their teachers and students, and a positive attitude towards innovation. This requires the school administrators to be powerful in terms of pedagogical and leadership competencies (Scott: 2005: 39). To be able to use information and communication technologies properly, school administrators need to understand how to use decision-making practices along with their pedagogical and administrative competencies. School administrators are expected to know in which steps of administrative actions they can use technology and what they can or cannot do, and use the appropriate technology considering the contextual necessities (Langran; 2006: 6). In this regard, in a school environment that constantly change and expand, it would not be enough for school administrators to be merely computer literate to actualize the integration of an appropriate technology to their instructional aims (Dönmez & Sincar, 2008: 17). The adaptation of schools to a technological integration in accordance with the instructional objectives is only possible with school administrators having high levels of web-based technological competencies. This requires school administrators to act as technology leaders to the school environment which they administer and communicate with (İlğan, 2013: 48; Yiğit, 2013: 41).

As the societies feel the need for development, schools will remain active in the process as one of the dynamics of the development and the change that it brings. It is a fact that as schools affect the change of the society, they are also affected by these changes. The primary elements that affect schools that are constantly renewed today and the school environments are information and communication technologies. Schools using any kind of technology that would enhance the quality of education can be regarded as important. Yet, what is more important is putting individuals in the centre of using technologies, and making plans and decisions considering the needs of all individuals at school. In this sense, trying to make the most of technology in any kind of instructional and administrative activities at school by putting individuals in the centre can be argued to be the duties of school administrators and teachers (Çöğmen & Köksal, 2014: 86). Technological products are very important, but only tools for the administrators of technology schools. What matters is whether administrators can make the educational institution that they lead using these technologies as affective as possible. For this reason, schools, school administrators, teachers and students need to re-define their roles as the members of the network society that is a reflection of technology. When this issue is considered for school administrators, it can be argued that technology leadership will be one of the most functional roles of school administrators in the near future (Dönmez & Sincar, 2008: 17). Therefore, it is of significance to identify school administrators' roles of technology leadership and how they perform the basic behaviours constituting these roles based on teacher views.

METHOD

Significance and Aim of the Study

The use of educational technologies and practices in the Ministry of National Education such as MEBSİS (Ministry of National Education Information Systems, e-school, Computer-Assisted Instruction, Internet-Assisted Instruction, Computer-Based Instruction, Internet-Based Instruction, Distance Education, Special Package Programs, Instructional CD's, Teleconference Methods and Multimedia Projection Devices to be also used at educational institutions requires school administrators to be well-equipped in this regard (İşman, 2011a: 14; Ministry of National Education, 2015: 1). Based on the necessity that administrators in educational institutions should be well-equipped in terms of technology knowledge, this study was designed to identify teacher views on technology leadership skills of school administrators working in state and private elementary education institutions, and then, offer suggestions to authorities in this respect.

Research Design

General survey model was used in the study. To identify the views, "Technology Leadership for Educational Administrators Scale" developed by the research in Likert format in 2014 was employed.

Population and Sample

The population of the study contained 1252 teachers working at a total of 45 elementary schools in the Beylikdüzü district of İstanbul in the 2013-2014 school year (Aras, Şimşek & Kakırman, 2014: 19). Twenty per cent of the teachers constituting the population, in other words 250 teachers, were selected as the sample group through simple random sampling. Among the questionnaires distributed to the sample group, 220 respondents returned, so the return rate was 88%. This rate is equal to 17.57% of the population.

Table 1. Participation Frequency (f) and Percentage (%) of the Sample Group

Sample Group	Responded		Not Responded		TOTAL	
	f	%	f	%	f	%
Teachers Working at the Elementary Schools in the Beylikdüzü District	220	88,00	30	12,00	250	100

Data Gathering, Analysis and Interpretation

In the study, to identify the teachers' views, "Technology Leadership for Educational Administrators Scale" developed by the researcher was used, and its Cronbach Alpha reliability coefficient was calculated as 0,95. SPSS package program was employed for data analysis, and percentage (%), frequency (f) and arithmetic mean ($\bar{X}$) were included.

The weights assigned to the extent of agreement for the propositions in the scale and the limits of these weights are as follows: “Never: 1.00-1.80”, “Rarely: 1.81-2.60”, “Sometimes: 2.61-3.40”, “Usually: 3.41-4.20”, “Always: 4.21-5.00”.

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Findings and Interpretation

The data obtained in this study, which was designed to identify teacher views on technology leadership skills of school administrators working in state and private elementary education institutions, and then, offer suggestions to authorities, was organised in tables and interpreted.

Table 3.1. Descriptive Statistics Related to School Administrators' Technology Leadership

No.	PROPOSITIONS	Never (1)		Rarely (2)		Sometimes (3)		Usually (4)		Always (5)		$\overline{X}$
		f	%	f	%	f	%	f	%	f	%	
1	Use technology effectively.	80	36,36	120	54,54	20	9,09	0	0	0	0	1.72*
2	Open to technological developments.	0	0	120	54,54	60	27,27	40	18,18	0	0	2,63
3		120	54,54	60	18,18	0	0	40	18,18	0	0	1,81
4	Buy software that would enhance the learning opportunities.	160	72,72	60	27,27	0	0	0	0	0	0	1,27
5	Enable all students to access technology equally.	120	54,54	60	27,27	20	9,09	0	0	10	0	1,81
6	Sensitive to obstacles stemming from gender, social class and other individual differences that would affect students' use of technology.	120	54,54	80	36,36	20	9,09	0	0	0	0	1,54
7	Far-sighted for quantitatively and qualitatively improving the use of technology at school.	140	63,63	60	27,27	0	0	20	9,09	0	0	1,54
8	Find technology leaders among the school staff as well as parents and students to enhance the capacity of using information technologies at school.	200	90,90	20	9,09	0	0	0		0		1,09
9	Provide opportunities for teachers to participate in in-service trainings to use technology better.	120	54,54	60	27,27	20	9,09	10	9,09	0	0	1,72

* "Never: 1.00-1.80", "Rarely: 1.81-2.60", "Sometimes: 2.61-3.40", "Usually: 3.41-4.20", "Always: 4.21-5.00"

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Table 3.2. Descriptive Statistics Related to School Administrators' Technology Leadership (Continued)

No.	PROPOSITIONS	Never (1)		Rarely (2)		Sometimes (3)		Usually (4)		Always (5)		$\overline{X}$
		f	%	f	%	f	%	f	%	f	%	
10	Have positive attitude towards technology.	20	9,09	100	45,45	80	36,36	10	9,09	0	0	3,27*
11	Consider student and teacher needs when equipping the school with educational technologies.	120	54,54	80	36,36	0	0	20	9,09	0	0	1,54
12	Encourage teachers in receiving training on the use of educational technologies.	140	63,63	60	27,27	20	9,09	0	0	0	0	1,45
13	Support the use of Internet services in teachers' communication with each other.	60	27,27	100	45,45	40	18,18	10	9,09	0	0	2,09
14	Enable all stakeholders to benefit from educational technologies equally at school.	100	45,45	80	36,36	40	18,18	0	0	0	0	1,72
15	Have a web site prepared which include students' and teachers' works and on which the events organised at school can be followed.	200	90,09	0	0	0	0	20	9,09	0	0	1,27
16	Enable students to access technological tools.	160	72,72	40	18,18	20	9,09	0	0	0	0	1,54
17	Enable students to use the Internet and tools such as drawing software, word processors, spread sheets and presentation software.	160	72,72	60	27,27	0	0	0	0	0	0	1,27
18	Provide the necessary support for teacher to use technology.	120	54,54	80	36,36	20	9,09	0		0	0	1,54
19	Provide the necessary support to form and develop a computer lab.	80	36,36	140	63,63	0	0	0	0	0	0	1,63
20	Provide an opportunity to use technology in the science lab.	80	36,36	100	45,45	20	9,09	10	9,09	0	0	1,90
General Arithmetic Mean												**1,72**

* "Never: 1.00-1.80", "Rarely: 1.81-2.60", "Sometimes: 2.61-3.40", "Usually: 3.41-4.20", "Always: 4.21-5.00"

As is seen in Tables 3.1 and 3.2, the teachers perceived the school administrators as incompetent as technology leaders. In overall, the teachers agreed on the propositions in the scale at the level of "never" with a low arithmetic mean ($\overline{X}$ =1.72). This finding can be interpreted as that the school administrators never acted/could not act as technology leaders to the teachers. As is seen in the tables, there were no propositions that the teachers agreed on at the level of "always" and "usually" regarding school administrators' technology leadership. These findings show that the school administrators could not lead teachers in technology usage.

As for the items in particular, the propositions on which the teachers' stated the highest level of agreement was "having positive attitude towards technology". The teachers believed that the school administrators had positive attitude towards technology. The teachers were observed to agree on this proposition at the level of usually with an arithmetic mean of ($\overline{X}$:3,27). According to the teachers, although the school administrators had positive attitude towards technology, they were not competent in using technology when evaluated with other items. It can be argued that since they could not use technology, they could not act as leaders in this respect.

The propositions on which the teachers stated the lowest level of agreement was "finding technology leaders among the school staff as well as parents and students to enhance the capacity of using information technologies at school". The teachers believed that the school administrators were incompetent in finding technology leaders among the school staff as well as parents and students to enhance the capacity of using information technologies at school. The teachers were observed to agree on this proposition at the level of never with an arithmetic mean of ($\bar{X}$:1,09). The teachers stated that the school administrators never received support for technology from the environment, did not look for leaders among parents and students to enhance the capacity of information technologies at school and did not cooperate with them.

In addition, the teachers did not find the school administrators competent in using technology effectively, buying software to enhance learning opportunities, and being sensitive to the obstacles stemming from gender, social class and other individual differences affecting the use of technology Similarly, the school administrators were not competent in being far-sighted to quantitatively and qualitatively improve the use of technology at school, providing opportunities for teachers to participate in in-service trainings on using technology better, considering the needs of teachers and students in equipping school with educational technologies, and encouraging teachers to receive training on the use of educational technologies. The teachers thought that the school administrators were not well-equipped to act as leaders in these areas. The teachers stated to have agreed at the level of never on the issues including the school administrators' enabling all the stakeholders benefiting from educational technologies equally at school, having a web site prepared which includes teachers' and students' work and on which the events organised at school can be followed, and providing an opportunity for students to use technological tools. The school administrators were also found incompetent in enabling students to use tools such as the Internet, drawing software, word processors, spread sheets and presentation software, providing the necessary support for teachers to use technology, and providing the necessary support in forming and developing a computer lab.

The teachers stated that the school administrators rarely led/advised them to develop their skills of technology. They also stated that the administrators rarely provided opportunities to use technology in the science lab, supported the use of Internet services in teachers' communication with each other, and enabling all students to access technology equally.

According to the teachers, the school administrators sometimes had open and positive attitude towards technological developments. The propositions on which the teachers stated the highest agreement levels regarding the school administrators' technology leadership were on their having open and positive attitudes towards technology, and these agreement levels were higher than the level of "sometimes".

RESULT AND SUGGESTIONS

As a result of the study, the teachers' views revealed that;

- the elementary school administrators were sometimes open to and had positive attitude towards technology and technological developments, but incompetent in acting as technology leaders.
- the high school administrators could not integrate information technology tools at schools to learning environment at each grade level.
- environments that would provide every student the opportunity to access information technology tools throughout their education life could not be created.
- although the school administrators had positive attitudes towards teaching students the skills of accessing information, problem solving, processing and presenting information by means of information technology tools, and teaching them how to use information technology tools in daily life, they did not have the necessary qualifications to ensure these.

The following suggestions can be offered based on the results of the study.

- Needs analyses should be conducted on the use of technology in education.
- School administrators should be directed to regular trainings on acting as technology leaders, and then encouraged to pursue postgraduate studies to improve their competency of technology leadership.
- Goals should be set towards developing positive attitudes in all stakeholders of the school for using information and communication technologies effectively, and activities should be organised to establish a total quality consciousness.
- Studies including the views of different groups should be conducted to reveal more generalisable results.
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Teaching English Via ''Scenario Building Technique'': A Case Study In Turkey

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ABSTRACT
There are several different techniques of teaching English for pre-service students in the universities in Turkey. But, in this study, attentions are drowned upon "Scenario Building Technique (SBT)" as an authentic teaching technique of English Language. The aim of this technique is to overcome managing the crowded classes and to encourage the participation into the course and in this way to increase effective teaching. According to the framework of this technique, firstly, students are divided into five or six groups with seven or eight students in each class. Each group is assigned in different caption of social topics of varieties, such as global warming, environmental preservation, leaving home by plane or visiting a dentist in an office or spending leisure time in a coffee house. Then, every student in each group is given a role to implement connected with certain subjects such as task-based activities by dialogues on the scene of actual daily life. In this process, one student is given the duty of writing scenario as a draft, and the other is of the task of using the camera to film the acting and the actors, and the next student is given the responsibility of directing, and the last is of designing the costumes on the basis of their creative abilities. So, each group and group members find themselves in engagement and involvement in an interactive social environment with the sense of reciprocal respect and esteem. By doing that, even introvert students are not only incented to gain self confidence and participate into the course, but they are also facilitated to achieve self-actualization. Moreover, they're provided an opportunity to transmit their social messages to outer community while learning English language with a joyful mood by means of this technique. More importantly, they feel free of anxiety, of prejudices and of fear of learning that have already been accumulated from their previous backgrounds related to their individual characteristic differences regarding socio-psychology and socio-economy. That is to say, via "Scenario Building Technique" students learn English Language in a joyful and satisfying atmosphere. In conclusion, it's been observed that learners' motivation and enthusiasm for learning have raised and, the ability of making the students participate into classes has considerably been improved.

Keywords: Scenario Building, Crowded Classes, Joyful Atmosphere, Techniques of Teaching.

INTRODUCTION
When I entered into the classroom of 60 Pre-service Teacher Education Students (PSTE) for the first time to teach basic English, I discovered a mood of cowardice, a feel of dullness and a spirit of uncertainty as well as a lack of proficiency in their command of English reflecting in their brightly shining eyes. Though they had received English Language Learning education in primary, secondary and high school, the image they gave me regarding their language proficiency was not on the desired level. Most possibly, it was because of their socio-economic, socio-psychological and socio-cultural background due to the fact that most of them were coming from underdeveloped regions, relative to the other parts of the country. Almost all of them were there with the aim of achieving a success in English language at a basic and elementary level in order to use it in their potential professions and careers. The impression that they gave me about their ability of learning English was not assuring and determining for the upcoming days. After teaching English for almost about two months in the classes of Pre-service Teacher Education Students (PSTE) and dental students as well as the students from other disciplines with different subjects. I came to realize that my envisaged opinion regarding their learning ability turned out to be concrete reality. This is because I observed that nothing has changed in their attitudes, behaviors and level of knowledge against the desired level of mastering English Language Learning.
This was the indication of the fact that I was about to face with a challenging journey in my teaching experience; but I irresistibly felt that there had to be some precautions and solutions in overcoming those difficulties in this or that way when I was exposed to during English teaching processes.
The barriers preventing pre-service teacher education students from achieving English learning at a satisfactory level here were not the fact that the classes were overcrowded or that the noise they created was preventive at their classes. The thing I would like to emphasize here is something quite different which requires being taken into consideration at the beginning.

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Obstacles Preventing Students from Achieving Success in Learning English in Overcrowded Classes

Although there are various obstacles arising out of the Hierarchy of Needs Maslow Mentions (Figure 1).

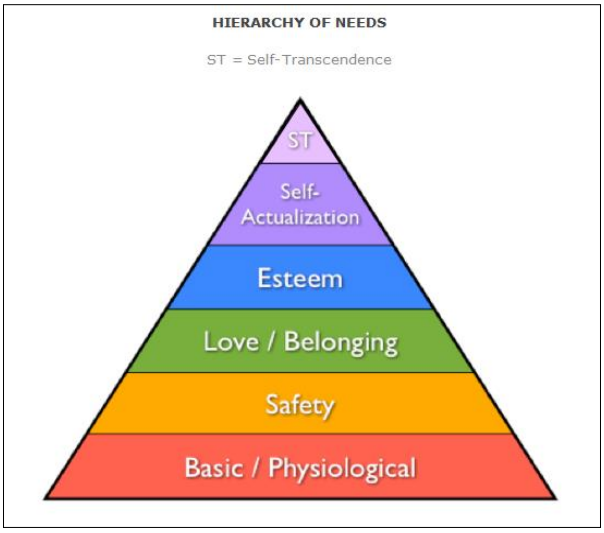

Figure 1. Hierarchy of Needs Maslow

I am going to focus upon some other obstacles that, I think, need serious consideration. The obstacles in learning English I am interested in here are mostly cultural-relative problems such as having a negative opinion towards learning a foreign language, and the others are lack of self-confidence, lack of motivation, and lack of positive attitude towards learning. In addition to those obstacles mentioned above, we identified some other serious obstructive factors preventing the students from reaching a considerable success in a Foreign Language Learning project. As it seems obvious, the unsatisfactory consequences in Learning English might be connected with reasons that is related to national identity, ethnical identification, religious convictions, and the global changes in the understanding of education all over the world in the last decade.

For instance, there are various papers in literature focusing on the fact that humanities are in the death agony due to the fact that the cooperative actions between the education institutions and industrial companies have changed the nature of education in a considerable extent. The fact that parents motivate their children towards the professions that bring financial gains in short terms, the students have come to lose their inner motivations towards learning because of the financial worries they have about the life they will have after they graduate from school.

Thus, as it is seen here, it is hard to address definitive conclusions about student achievement based on only the reasons expressed above and class size alone only, , it academically wouldn't be so logical approach for there are other variables such as the quality of teachers, students degree of motivation and the role of the parents. Furthermore ,

- Fear of failure: The main drive to do well comes from avoiding a negative outcome rather than approaching a positive one.
- Fear of success: "Nerd" vs. "cool" => Fear of losing social support (affiliation) may come into play, large classes cause difficulties (Atkinson & Raynor, 1974).

Apart from tangible problems that appear in English Language Teaching that have been mentioned above, at most, in crowded classes, there are some others as followed below;

- One of the main difficulties that a teacher may experience while teaching a large class is the tremendous effort that she or he will have to make. With an outnumbered class there is always something to be done.
- With a large class, it is difficult to get a satisfactory knowledge of student's needs. Intimacy with students and remembering names might be a problem.
- As a consequence of the large number of students, the noise level is inevitably high which adds to the stress teachers may experience.
- Organizing, planning and presenting lessons, may constitute another challenge for teachers in such classes as students abilities might differ considerably.
- There is another difficulty related to the learning process. In fact, engaging learners actively in the learning process may not be easy in a crowded class.
- It is hard to imagine how a large class would benefit from school resources such as computers, books, references…
- With a crowded classroom, teachers might find it difficult to measure effectiveness.

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- A large classes gives reluctant students a place to hide.
- As teaching process has been so crucial but complicated that many scholars spent lots of effort and time in researches to find out the problems and bring solutions for it (Rhalmi, 2013);

Because of this, according to (Stronge, 2002) he explains that General obstacles or difficulties stem from several sources. Some derive from the fact that many prospective teachers do not clearly understand what constitutes self-reflection, or how to do it. They confuse reflection with describing issues, ideas, and events; stating philosophical beliefs; or summarizing statements made by scholars. They miss the analytical introspection, continuous reconstruction of knowledge, and the recurring transformation of beliefs and skills that are essential elements of self reflection.

Another outstanding researcher of this field is (Varus, 2002). He addresses that even teacher education programs that emphasize reflection frequently do not incorporate issues of race, ethnic diversity, and social justice in classroom practices. Another general problem is that teacher education students have few high-quality opportunities for guided practice in self-reflection. This should be corrected by instructors in pre-service programs using inquiry teaching techniques and helping students develop the habit, skills, and spirit of criticalness as habitual elements of their learning experiences. If these approaches to learning are cultivated and modeled across the general teacher education curriculum, they will set a foundation and precedent for teacher candidates to use in their own classrooms.

As Danielewicz (2001) stresses: Reflexivity is an act of self-conscious consideration that can lead people to a deepened understanding of themselves and others, not in the abstract, but in relation to specific social environments... [and] foster a more profound awareness... of how social contexts influence who people are and how they behave... It involves a person's active analysis of past situations, events, and products, with the inherent goals of critique and revision for the explicit purpose of achieving an understanding that can lead to change in thought or behavior (pp. 155-156).

Other difficulties in developing a general reflective ethos among pre-service teachers come from traditional beliefs that teaching is an objectifiable craft. It requires the mastery of technical components that are applicable to all teaching contexts and student populations. These beliefs are captured in statements such as, "Treat all students the same regardless of who they are," and "Good teaching anywhere is good teaching everywhere." It is troublesome for some teacher education students to overcome these orientations, and to accept teaching as a highly contextualized process. In fact, teaching is as much a personal performance, a moral endeavor, and a cultural script, as it is a technical craft (Cochran-Smith & Lytle, 1993; Danielewicz, 2001; Palmer, 1998).

Some Measures To Take To Facilitate Language Learning In Crowded Classes

So, all these significantly underscored obstructive which have been illustrated above emerge in all types of educational practicing environments, but the problem here is how to cope with them in educational process for the benefit of next generations.

In my opinion, some of the measures or remedies that can be put in forward are as described below: It is undoubtedly very difficult for a teacher to deal with large classes. Anything done to remedy the problem would be fruitless unless students are really motivated to learn. Nevertheless, the following tips may be useful to alleviate the intensity of the situation.

First of all, he thinks, it would be a great idea to train students to work in small groups of five to seven students. And when working in groups, it would be beneficial for students to sit around in a circle so that everyone could have a chance to participate.

- Groups should include fewer members to avoid any of the students coasting. It is important to find active roles for students to avoid them being lazy.
- Pair work may be also a good alternative to practice conversations, exercises and other language activities.
- Pairing weaker students with stronger ones might be an option unless you fear the weaker students feel intimidated.
- Changing the classroom desk arrangement to take into consideration the large number of students is a good idea. Finding out the right arrangement is up to the teachers' creativity and classroom size. Anyway, desk placements should make cooperative work easier.
- To optimize your work with students with learning difficulties, give them seats in front of you, closer to you so that you can spot difficulties easily while teaching.
- To reduce stress and noise level, set simple rules for class management.
    1. Establish simple rules of acceptable behavior for everybody to observe when working in groups, in pairs or individually.
    2. Train your students to deal with classroom chores:

    – Getting into and out of the classroom at the start and end of lesson or during recess time,
    – Handing out books, papers, and other materials,

  - Putting away school materials at the end of the lesson.
- Teachers in large classes may also want to delegate some of the work to more able students. These can play the role of teachers' assistants.
- Another measure that might be effective for some teachers is to split the class into weak students and more able students. This would make it possible for the teacher to concentrate on the weaker students. However, this should be done with a lot of caution so as not to affect weaker students' self-esteem.
- Why not use technology? Technology ensures that everyone has time to connect with the teacher. For instance, teachers may plan to do the following:
    1. A large class will be better off with a blog or a wiki where students and the teacher could meet at home.
    2. Using students' emails would make it easier for teachers to connect with students off class.

The most effective solution that researcher pay attention and loads the importance on is generating a new approach ''Building Scenario as a Teaching Technique for acquiring English language. In this technique, for the 1st stage, he counts the class of sixty pre-service teacher education students from1 to 6 in numbers. The class is constituted of sixty students with variety of different aspects, cultures and knowledge of English with almost the same level as most of whom come from the similar socio economical background. Then, he collects numbers 1 in group "One" in front of the class, Next he collects number2 in group "Two", Placing them in the middle. After that he gathers the group3 made from number "Three". The next step he paces, he constructs the group4 from numbers "Four". He continuous creating groups until he establishes the group number "Five and Six". Actually, the number of each group might exceed up to "seven" or "eight" students depending on how large the class is in order to help releasing the stress occurring from the crowdedness, and as a result the noise they might produce.

At the 2nd stage, he draws a draft of different attractive subjects for each group from actual daily social life. These subjects can range from topic of variety like - 'Global warming, - 'Violence to the women'- 'conservation of eco-system'- a leisure time in a coffee house or 'having a toothache'. At the 3rd stage, he provides the students with opportunity for the groups to choose the subjects based on attraction of their interest. No doubt, each group is given or shared the subject depending on their desire of attraction. At the 4th stage, he selects a representative among the students of each constructed group to monitor or to lead the group in casting role depending on their creativity thoughts and skills in both English using in certain simple level and knowledge of using communicative technology like a smart phone or camera to film the actors or actresses on the scenes while performing their role within each group. At the 5th stage, he monitors the group in construction of writing the dialogues on drafts related to their topic chosen so that they can study and perform on the stages of their relevant subjects. And more importantly, at the 6th stage, after all groups have completed their tasks- 'Scenario Building' as a teaching technique,- each group brings their finished filmed work regarding to their roles in class to watch all together with whole groups in enjoyment and cheerful atmosphere.

DISCUSSIONS

If we go into peer reviewing of this technique, I believe that it's easy to find out that Krashen's many teaching theories have been put into implementation via using –Scenario Building as an effective teaching technique. Furthermore, it creates devices such as task-based, cooperative, collaborative studies in group working that contribute and accelerate language learning for students. The more importantly, it also requires involvement and engagement in educational process which are the most sophisticated and vital components in language learning environment. The methods he used that contributed to English Language Learning involves the following teaching and learning theories as illustrated below:

- grammar-translation
- audio-lingualism
- cognitive-code
- the direct method
- the natural approach
- total physical response
- suggestopedia

RESULTS

So, as a conclusion, by using an effective teaching technique of Scenario Building, it provides the learners not only with socializing environment, but also a happy atmosphere with the achieved goal. Because, in this technique, it requires all methods that make it easy for language to be put into implementation on large scales. Moreover, it releases the students from the fear of anxiety, of failure, of prejudices about that they can't learn English stemmed from their socio-culture, socio-psychology and social-economy.

Moreover, this technique facilitates students to use their multi intelligence skill as they are crucial requirements for effective learning and practicing in achieving a language.

It is true that teaching a large class is challenging as it is pedagogically unacceptable and psychologically irrelevant. These classes involve, most of the times, mixed abilities, language levels, motivation, needs, interests, and goals. Nevertheless, teaching and managing such classes is possible if steps such as those described above are taken.

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Teaching Structural Engineering To Architects

Traditional vs. innovative methods of teaching (at CTU Prague and at selected European Universities)

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ABSTRACT
Share of Structural Engineering subjects in bachelor curricula of architectural studies at selected European universities typically ranges between 10-15% at most English speaking universities and between 15-25 % at most German speaking universities. Share of Structural Engineering subjects in master curricula of architectural studies is typically up to 5%, however some universities offer further specialization in Structural Engineering, which boost its share in curricula to 10-45%.
The major objective of the study is to discuss different options in educating architects in the field of Structural Engineering and to monitor innovative methods used for its teaching.
Two main streams in educating Structural Engineering to architects are represented by traditional teacher-centered instructional and behaviourist approach and more recent student-centered instructional and constructivist approach.

Students of architecture are accustomed to learn in visual, creative way, therefore student-centered instruction and constructivism approach seems to be more beneficial for them. Typical example of this method is participating in guided interactive manipulation with models, which improves critical thinking, understanding of the structure and it supports the development of an intuitive design of a structure.

Keywords: structural engineering, architectural curricula, architectural education, innovative teaching methods, structural engineering education

INTRODUCTION

In order to find out, whether Structural Engineering is an essential subject in Architectural Courses at European universities, a study has been conducted by the Czech Technical University in Prague (Pospisil, Vavruskova, 09/2014). For the comparison with the Czech Technical University in Prague, 27 leading European German (15) and English (12) speaking universities have been selected in accordance with rankings listed at the end of this article (University Rankings). There are currently two main types of architectural courses: Architectural Engineering and Architectural Design. Share of Structural Engineering in curricula varies according to the type of course as well as type of university. Following courses were taken into account whilst comparing the amount of Structural Engineering in curricula: Structural Mechanics, Statics, Concrete Structures, Steel Structures, Timber Structures and Foundations. Most of the above listed universities support ECTS (European Credits Transfer and Accumulation System), which has been used as an objective quantity indicator.
Structural Engineering appears to be an important part of architectural curricula at all European universities, especially for the bachelor courses. Its share in architectural curricula varies considerably among the analyzed universities, ranging between 5-42% in bachelor courses and 0-45% in master courses. German-speaking and leading British universities tend to have higher than average share of Structural Engineering in their architectural curricula, which in bachelor studies represents around 35%. Most English speaking European universities have 10-15% of Structural Engineering in their curricula, whilst German speaking European universities (Germany, Austria, Switzerland) show overall higher volume of Structural Engineering in their courses, which varies between 15-25%. For majority of master architectural courses, Structural Engineering subjects represent up to 5% of curricula. Some universities offer further specialization in Structural Engineering, which boosts share of Structural Engineering subjects in their curricula to 10-45%. Finally, with 8.33% share in bachelor studies, Structural Engineering subjects at the Faculty of Architecture, Czech Technical University in Prague, seem to be underrepresented in context of the above-mentioned European universities.

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THE STUDY

The main objective of our study is to discuss different options in educating architects in the field of Structural Engineering and to monitor innovative methods used for its teaching. According to Pospisil et al. (06/2014), situation in the Czech Republic, where the study is conducted is best described as follows: a number of architectural students within the last twenty years has risen significantly (almost ten times compared to 20 years ago), which corresponds to the amount of newly established schools that offer architectural education. This situation led to an increasingly pronounced polarization in education of exact and technical subjects. The newly established architectural education at the technical faculties and schools de facto extend previous studies of civil engineering and orient their education of architecture significantly in more technical direction and on the contrary, traditional schools of architecture show some efforts to simplify teaching of exact and technical subjects.

FINDINGS

Our study would like to compare two main attitudes to teaching Structural Engineering to architectural students as described by Pedron (2006).

I. Traditional Approach (teacher-centered instructional and behaviourist)

Traditional approach to teaching is a reflection of development of scientific thinking. Role of engineering for the design of a structure was considered as very important and that fact led to an introduction of sophisticated mathematics models into an educational process. These methods are therefore understandably predominant.

When described by the behaviourism theory, learning can be viewed as a cycle of stimuluses from teacher, closely followed by response actions from learners. It is the teacher's choice what he „transmits", students are only passive recipients and their role is reduced to memorize and absorb delivered facts. Active participation of students in the learning process is not encouraged by this method and furthermore it promotes individualism and competition.

According to our observations at CTU in Prague, we have noticed following problems whilst applying traditional approach to teaching structural analysis to students of architecture:

1.Majority of students learn by heart mathematic formulas used for solving study-case and apply them further on as a routine to all cases they consider to be similar without considering whether it is appropriate for them or not. They have got difficulties to adjust formulas for each particular case and from the application we can often see that they do not really understand what they are doing. When they need to apply the knowledge they should have gained by solving model-case in a different context, they get into difficulties.

2.A great number of students is also not interested in learning structural analysis, mostly because of lack of related subjects in their following studies. Other reason for structural analysis not being popular with architectural students is the characteristic way they are used to learn – visual and creative, which is not supported by traditional teaching.

3.We must also take into account the fact, that generally students of architecture do not have strong foundations in the area of mathematics, physics and mechanics, which is desirable for successful development of structural analysis skills.

II. Alternative approaches (student-centered instructional and constructivist)

The student-centered model of teaching is nowadays considered as more appropriate, because it helps to develop skills such as critical thinking, ability to solve problems, work in a team and to communicate. In this approach teacher provides moderately challenging tasks on which students can actively build their knowledge using previously gained experience. In the contrast to a traditional model, which uses problems after their content has been introduced, problem-based learning uses problem as a way to challenge students, motivate them and initiate learning. This approach also brings a great benefit in the form of strengthening students' ability to work as a team.

We can imply, that education should be more deductively-oriented than inductively oriented, more process-oriented than product-oriented and more practice-oriented than technical skill-oriented. Another typical feature of constructivist theory is a fact, that „previous ideas" (students unerstandings of science with which they come to a course) are taken into account, they are made explicit and reviewed in order not to become barriers to learning and hence effective teaching. Social aspects are brought into the constructivist learning process through discussions and negotiations with others (including explaining, clarifying, justifying, evaluating, questioning, analyzing, synthesizing...), which eventually leads to a consensus.

Department of Load-Bearing Structures at our faculty is in a close touch with other leading faculties of architecture (e.g. ETH Zurich, Switzerland or MIT, Boston/Cambridge, United States of America), whose observations further support alternative approach to teaching. In order to tackle the situation, some of the faculties have already incorporated a visual approach to teaching statics, which we consider as innovative opposite to frontal methods of teaching we are currently using.

The innovative methods (successfully used for several years at other universities) with which we would like to improve the quality of our tuition are mainly these:

II.1 Hands-on experiments

These experiments on a really small structure are considered by some tutors as especially suitable for students of architecture, who are used to learn in a visual way. It helps them better understand fundamental principles of a structural behaviour. Lecturers under the guidance of professor Künzle at ETH Zurich, Switzerland created series of demonstrations for the first course of structural analysis for their architectural students.

As described by Pedron (2006), some of the class demonstrations are:

Simple beam structures where a wooden beam is supported at both ends with one horizontally moveable support and loaded in the middle. Students observe bending of the beam when the moveable support moves. By further increasing the loads they can observe the linear proportionality between displacements and loads. Differences in elastic behavior of various materials can be seen when using beams of different material whilst keeping the same structure including its support and loading conditions

Most typical experiment for simple frames shows the comparison in behavior of a two-hinged, three-hinged and a fixed wooden frame vertically loaded in the middle of the cross bar and then only horizontally loaded in one corner. When submitted to the same load, each structure shows different deformations (for vertical load the largest deformations are for the three-hinged frame whilst they stay more or less the same when loaded horizontally).

To demonstrate static behavior of an arch, it is loaded vertically to show that it acts in compression whilst an interior chain (connecting the base supports) acts in tension.

Typical experiment for a wooden truss is setting it first without diagonals to demonstrate its instability and watch the stabilization by inserting diagonals in each rectangular field. Students can also observe local instability occurrence when replacing some of the wooden bars with steel wires, which are further submitted to stress.

However high is their educative value, hands-on experiments are affected by complications such as a limited number of experiments, lengthy preparation and tendency of students being passive. In order to tackle these problems, some lecturers are trying to involve students in creating hands-on experiments by giving them tasks to complete, often with the support of modern software technologies. (e.g. build a bridge of given length using the least material possible, then check the behavior of the structure using structural analysis program and finally fine-tune the structure).

II.2 Modern software technologies

Modern computer tools should not provide a substitute for a traditional class course, but represent a suitable accompaniment to it. As already mentioned, virtual models can be created simultaneously to hands-on experiments using computer software. At first features such as deformed shape, maximum displacement, normal forces, bending moment etc. are analyzed, then structure is further improved until the optimal design is reached. The most appraised benefit of such programs is their interactivity, which helps students with visualization of abstract concepts. Examples of the programs are: Easy Statics and eQuilibrium (ETH Zurich), Structural Gizmos (Washington), Deflect (Glasgow) or Grips (Stuttgart).

II.3 Graphic Methods

Graphic methods, popular in the 19th century, are nowadays seen by many lecturers as a way to enhance students' understanding of structural behaviour and therefore are finding their place back in the courses of structural analysis. They offer powerful techniques for the analysis of structures. Often, the effort required is much less than that one required by theoretical methods and the solution is comparably accurate. Using these methods, forces in structures are calculated by drawing lines on paper corresponding to the magnitude and direction of the vector representing the forces. The main advantage of graphostatics is that it allows designers to visualize the flow of forces throughout a given structure along with providing a direct link between structural behaviour and structural shape.

Karl Culmann (1821-1881), a pioneer of graphical methods in engineering, published a book on the subject in 1865/66. He took up a chair of engineering sciences at the Swiss Federal Institute of Technology in Zurich in 1855 and had a profound influence on a generation of engineers.

Contemporary advocate for graphostatics methods for lecturing on structures is the team of Karl-Eugen Kurrer (2003), according to whom the clarity of graphical techniques has a high didactic value, since interdependencies, e.g. between forces and structural geometry, can be directly experienced.

At MIT Boston/Cambridge, USA, graphostatics methods in teaching statics to architects were revived by Waclaw Zalewski and Edward Allen (2010) and are being successfully developed by John Ochsendorf.

CONCLUSIONS

As observed by our team at CTU in Prague, traditional teacher-centered approach to teaching structural analysis to architectural students brings to attention especially these attributes we would like to tackle: lack of motivation to learn structural analysis, lack of interest to understand how the structures work, routine and often incorrect application of mathematical formulas. Traditional tuition puts students into the roles of passive recipients and compared to alternative methods of lecturing (already successfully applied at some universities such as ETH Zurich, Switzerland or MIT Boston/Cambridge, USA) seems to be less beneficial for them. We would like to

improve critical thinking of students, together with their understanding of the structure and ability to solve real-life problems. We think this may be achieved by introducing a course of Visual Statics to the curricula. The pilot course was already run at CTU in Prague in winter term 2014/2015 as a voluntary supplement course and is described by Pospisil, Vavruskova (06/2015). We believe we can raise students' interest in structural analysis by interactive manipulations with real-life models accompanied by interactive software modeling (under the guidance of teachers). This student-centered instructional and constructivist approach furthermore strengthens students' independent thinking, improves their explaining and reasoning skills and prepares them to work in a team.
According to Ortiz et al. (2014) today's society with its requirements represent a major challenge for teaching staff at universities, where lecturers need to adapt their teaching methods in order to meet these new challenges. Educating new generation of students brings demands of teaching them select, update and use knowledge rather than processing facts and formulas. Students should have the ability to learn in different contexts during their professional careers and be able to adapt their knowledge with arisen new situations. Higher education should aim to bring up graduates which are fully prepared to face the challenges of the new economy.

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Textile Designs Embellishments: Rethink Design Models For Fish Scales Texture Pattern Study

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ABSTRACT
This study to seek and gain the understanding of Fish Scales that possibility to be used as an artistic substance in textile design. Toward the research interest, this study has interrelated with inventive and creative design preceding relation. Fish Scales being selected as a propose media for gaining the acquired research interest. This research also will relate with several progression and methodological approach on the explorations of design process. In other aspect, preceding studies have indicated that Fish Scales substances that able to be manipulating as an artistic and commercial creation. Those progressions have being regulated with several acquired procedure to gain the demand interest. Regarding to the research interest, this study will specify several particular persons that passionate in design areas as research respondent. For specific research formation, additional advancements will be organized to capturing the perception outcome from respective respondent commitment. Furthermore, the sensible Fish Scales material can be utilized as a complementary chance as the accessible artistic support formulation. These researches also attempt to indicate the Noble design convention from Art & Design mechanisms. Perhaps, artistic sensitivity will determine the research perspective and established the creative implementation. Textile Design segmentations can be able to obtain various expected valuable visual aspect from Art & Design artistic interests.

INTRODUCTION
The application of textile embellishment has always being conflict to outcome consciousness which able distress artistic determinations. This research will explore the Fish Scales as the proposed material for alternative media context. Design manipulation is part of the thoughtful progression has been greatly acquired for the artistic appearances of adequate sensitivity development. In regards, development of Textile Designs should equip with the convincing and artistic sensitivity outcome. At certain aspect, the unwanted substances will happen and caused the obstacles matters. From the artistic element creations, the required outcome should be enclosed with variety of applicable pattern. In order to enhance textile appearances, the surface can also be ornamented with expected design patterns in many ways. As for the consequent, surface embellishments have required for the unique determination and values added in art & Design appreciation. Furthermore, by applying design theories for theoretical framework appreciation will seeks the identifications of the unique media in arts & Design that can be utilized as alternative surface prospect. The significance will indicate surface decorative patterns that respond to the artistic projected and contextual appreciation. Therefore, by support the valuables progression will serve the artistic identity and determine the Textile Designs recognition.

AESTHETICS APPRECIATION
Design is associated with applied ability for particular commercial appreciation and functionalize accordingly to the human life requirement. According to (P. Jones, 2006), considering to the inspirations on designs materialize from the perspectives of sociology, history and philosophy, original ideas are generated by exploring the answering to the why, what and how the research to be formulated by our sense of curiosity. The conviction is extremely important in obtaining a sense of the applicable knowledge and ideas that extremely required. Designs sources for inspiration should not be bounded into a rigid conditions and stop the artistic commitment moving. Respectable exemplars that will be gain from selected respondent as acquired for fulfill the research ideas came into the researcher intentions. The progressions attempt to favors the sources as the inspiration for attaining the worthy

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cognitive conscious and creativity concentration where originally sustained. As matter being considered, the procedure of generating the ideas should be influenced by design activities. However, the understanding manner toward audient consumption is also important to associate with social impact on Textile Designs interest. The essential involvements is needed in order to locate the effectively ideas on creating the theme and the concepts of Textile Designs relevance. In other aspect, textiles Designers have to innovate the acquired products generation and positioned the better services routines for artistic scenes. The conventional perception should be reform and gain on social innovation that will tackle the evolution towards a sustainable design process. According to (E Mazzini, 2008), the idea of sustainable design should be focused on forming the possibility of propagating original design solutions. Textile designers should response in order to increasing physical work on such innovative materials that often closed with technology-driven. However, the improper design progressions will generate risks and the acquired solutions are quite problematic. Kind of knowledge and design technological where associated with issues on how the Textile Designs patter will functionalize the outcome. Probabilities, the interactions forms (Abidin, Warell & Liem, 2010) are interrelated to respective obsessions that have been neglected on how the technology-driven develop.

REVIEW OF THE EXISTING DESIGN MODELS

The rising of the important design knowledge and artistic sentiment has relatively acquired research on the Textile Designs demand. The factor has associated with artistic appreciation among practitioners in Textile Designs. This study attempts to meet the opportunity by exploring the artistic factors and appreciation to specify Textile Designs determinations in design works outcome. According to (Xenakis, 2013), has point the material toward the factionalism on negative impact and knowledge ideas for art spaces development. Surface design has been proposed as a mechanism for integrating the artistic appreciation among several individual thinking levels. Reconsidering toward the art appreciation conception will guide and promotes the attachment for Textile Designs identities.

Habitually, it has been proposed as a mechanism for integration and complication overcome. The rational of this study will increase the influence of visual appreciation and applicable provisions. Fish Scales substances will be enclosed for the acquired surface design attachments as matter that being considered. In addition, the explorations should extent the appreciation on design sentiments and conception efforts. Methodologically, the study is relies on Qualitative procedure to gain the artistic appreciation regarding to applicable theoretical framework. From the specify data progressions will obtain the in-depth understanding by respective research subject and discipline. According to Jones (2010), considering that inspirations for designs materialize from the perspectives we hold on sociology, history and philosophy, original ideas are generated by exploring the answers to the “why”, “what” and “how” formulated by our sense of curiosity. Optimism is vitally important in obtaining a sense of knowledge and ideas that is borderless. The source for inspiration knows no bounds. A good example for that would be late designer Alexander Mc Queen who most of his ideas came within a dream. It became his favorite source of inspiration for it came from deep within his cognitive and unconscious creative mind where originality is sustained.

In general, the process of producing ideas is influenced by design activities. However, understanding the manner of consumption is also significant in deciphering the environmental and social impact of a design (Abidin, Othman, Shamsuddin, Samsudin & Hassan, 2014). These are the necessary inputs needed in successfully churning out ideas, creating the theme and the concepts of a design. Designers need to innovate a generation of products and services systems that steers away from the traditional perception and explore a fresh take on social innovation to get the gears going on the evolution towards a sustainable design process. According to Manzini (2008), the idea of sustainable design should be focused on forming the possibility of propagating original design solutions. The product design framework is a model illustrated from the structure that makes up the process of thoughts and ideas. In this model, thought process is presented in a way that categorizes existing knowledge as a basis of cognition and new thought as informational queue.

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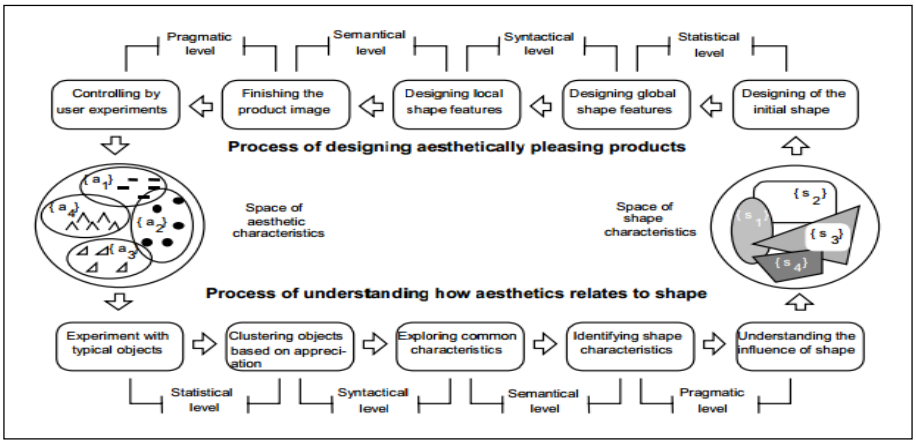

Fig. 1. Model of design for aesthetic with two directions, each having four levels of communication

As depicted in Figure 1, a set-theoretic description of such mapping was developed by the author in his attempt to investigate its feasibility in regards of both exploration and creation. Here is a brief description of the main components from the adopted model of formalism and an illustration of its usage. Generally, any or all of these entities can be perceived as non-singular. Several designers can collaborate together in designing a single artifact; various artifacts can be designed simultaneously at one time, and a great number of users can make use of the artifact. The connections are as follows, (1) The designers design the artifacts, and (2) The users utilize the artifact. But these connections are entangled. What that means is the way the user uses the artifacts is determined by the designer based on the product design's structure. However, the condition where it calls for a designer to even begin designing an artifact requires that it is within the users' demands and needs. Using (Maier and Fadel 2006), a relational model has been developed for design based on the entities and connections' above: the designer-artifact (product)-user (DAU) system, is shown in Figure 2. The significant outcome is that this formalism is a complex adaptive system (CAS) as well, following the same cycle as other CAS (Gell-Mann 1994). The primary aim will be to inspect the stability of value assignment to the characteristics. The depth of formalism, as shown in Figure 2, may look distant to every day design practice, but is essential in gathering human knowledge, make it real and more likely to be processed.

TEXTILE INTERACTION IN DESIGN

Through the acquired interaction on Textile Designs interaction, researchers have recognized the matter that should be monitors. Designs manner toward the acquired object should relates between the function and applications interaction. Textile Designs should be functionalize and stress on the object that respective audient have used and interact freely with the moment that would be consider. Therefore, the attentions in Textile Designs have to interact with the connection and concerning toward the function and attractions. Perhaps, the researcher will generate the textile enhancement based on the acquired designs interest. At this point in time, researcher formulates the basis strategies for the artistic and innovative design progressions. The progressions are almost similar the actual fashion designs practices, however the interest is fully equipped into the Textile Designs interest. The most concern is the formulation is associated with the radical chance in artistic perspective since the Textile Designs is much more technical in nature acceptance. The arrangement of textiles designs, will derive into the artistic familiarity and enclosed with particular textiles materials. Perhaps, Textile Designs will get interacted with designs relation into a smart textiles application. Toward the matter, the terms of integrating designs ability is natural to be located and being flexible.

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Table 1. The Term And Terminology used in Textile Design

i.	Term	ii.	Terminology
iii.	Fish Scales	iv.	Most species of bony fishes are covered with and protected by a layer of plates called scales
v.	Texture	vi.	The actual feel (roughness or smoothness) of a surface. In art, texture may refer to the illusion of roughness or smoothness often achieved with contrasting patterns.
		vii.	Texture: The surface feel of an object or the representation of surface character.
viii.	Pattern	ix.	decorating a surface composed of a number of elements (motifs) arranged in a regular or formal manner
x.	Textile Design	xi.	Textile design is the understanding and creation of textiles to solve design problems. It involves an understanding of traditional techniques as well as modern mass production methods.
xii.	Embellishments	xiii.	Embellishment is a value adding property to the fabric or garment
xiv.	Creative	xv.	Creative is a vital and innate human quality - everyone has the potential to develop creative behaviours and skills if they are nurtured, facilitated and encouraged. It's these creative behaviours that are increasingly essential to successful learning, living and working in the modern world.
xvi.	Art Practitioners	xvii.	Creative Practitioner is a term particularly developed by Creative Partnerships. It's a term that took the notion of artists a step further – a way of describing people who in their professions exhibit and use creative behaviours

However, the problematic in redefine textiles into the terms of categorizations will connect between function and interaction. The concentrations on the understandings of textiles applications will interact with innovative inquiry regarding to the artistic relations. In certain matter, design work could be complication toward the conceptual determinations. In several distinctive forms of innovative formulate and creating interventions that has been expressed by textile property influences. The fundamental necessity will be enclosed in research objectives and it gather the alternative progressions to describe the textiles design expressions and interactions. The opportunity is attempt to determine the innovative significances by demonstrate the experimental textile interaction design that focusing the textile interaction expression. The progression means to design something and present as Textile Designs with specify expression on interactions indication. However, the purpose of the concepts needs to be specific and comprehend the complications based on regulations description. Presently, the Textile Designs occasionally needs to be enclosed with additionally universal and wide-ranging functional properties.

Textile designers should be questioning with sophisticated complications that correlated to respective design areas. Necessarily, several any design work should involving with interaction form that might be quite intellectual, precise or clear and highly explicit in terms of expressiveness. A distinctive pattern of an experimental design approach that will be employ with the thinking thoroughly explore. Generally, knowing about the conceptions of Textile Designs is related with soft, and flexible as the basic characteristic of textile interaction expression. Through the study intention, the presented textile can be conveyed into the important design instrument. While, Fish Scale is under available media to be enclosed in textile fabricating as effective product with applicable purposes. Toward the matter, researcher is attempting to demonstrate the respective thing as considered media to be utilized in textile interest. Perhaps, researcher will achieve the argument and provide advantages explanations for aesthetics interaction. As part of the dynamic nature, researcher acquired to fulfill the several operations that will be forms in order to gain the aesthetic experiences. Along with the course, researcher will introduce a possible effective virtual to detecting affordances through Textile Designs interactions. The explanation will improve artistic understanding regarding to the potential usage of Textile Designs interaction. The aesthetics affordances will enclosed with the researcher responsibility tend performed in formulate design decisions.

The provisions of intention adaptation will effects according to affordances and aesthetics interactive in what way Textile Designs is perceived. Design process will interact with aesthetics purposes as recommended appliance in way to evaluates the internal and external requires the successful interactions motivations. An appropriate design presentation is formed when the research respondent well evaluated with the interactive and potential knowledge through aesthetics experience. In order to attain convinced expectations and reduce uncertainties Textile Designs

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outcome the incorporation will interact with the parallel design line. Through the respective aesthetic experience, researcher will assign values interactive potential that will reduce the hesitation and enhancing the artistic ability. The interaction of acquired aesthetic will formulate research respondent improve the interactive design progressions.

STATEMENT OF THE PROBLEM

Statement has stated by (Hallnas, 2006), Experts in the Textile Designs fields have often expressed concerns that young designers are lacking exposure in terms of material innovation. Toward the matter, the action should be considerate regarding essential of knowledge and awareness engagement. As criteria being considered, the researchers are acquired to be knowledgeable in order to figure out ways and valuing the significance of the expected design. For this reason, it has inspired the proposed approach to initial the range of design works through unconventional materials (Fish Scales) as intended to create a broad sustainable concept of design practice. Centered from preceding study by (Mohini , 2007), has indicate the needs of the material was one of the arising issues at time to tend to further to several of arts discipline. This matter has confirmed by the respective researcher, that artwork requires the variety of texture to be enclosed. In other aspect, it has similar to Fine Art discipline as being recommended for the priority arrangement. The issue also enclosed with how researcher may transmit to the dynamic properties of smart textiles. It is also part of the things that might happened in researcher / respondent / audient experiences on upcoming innovative program. A kind of technological also where the issues of how the Textile Designs will function.

OBJECTIVES OF RESEARCH

As being regulated by the acquired procedure, clearly the research aim will specified: Interpreting Fish Scale pattern experiences into Textile Designs practice and discipline. Principally, the purpose will follow proper indications and eliminate the present unwanted complication Textile Designs outcome. From artistic sensitivity, the acquired design factor will determine the sensation and achieving motivated perception. By introducing innovative and specialized substance generated and inventing imaginative experience in surface design. Toward the explorations that will be conducted for gaining the valuable matters, researcher attempt to looking into the proposed domain related to:

- To explore the potential of Fish Scales that could be utilized as alternative substances for textile design embellishments.
- To acquire the artistic sensitivity from Fish Scale designs manipulations.
- To formulate textile designs comprehensions for Nobel creative conception

The expected upright thing from this study will benefit various involvements in the Art & Design discipline. The progression will demonstrate the useful information for researches along with other interest fields. Additionally, the predictive consequences from the research can be applied for other effectiveness design exposure. This research is significantly will correspond to be share between upcoming emerging researcher and designer. A well-mannered awareness will be grow toward the Fish Scales as the appropriate applied resources in regards to enhance the idea as wish to be express. As for the sake of research conventions, the study can also be response in turning respective passion and knowledge of design works based into a profitable design commercial. Perhaps, the respective respondent will formulate creating pieces of products and gain proper knowledge from the research material relations. Along with the acquired willingness, several regulations on designs creation will be channel a good chance and revolving into respectable revenue venture. The research will be undertaking by a selective design module in progress procedures to nurture artistic Textile Designs surface.

CONCEPTUAL/THEORETICAL FRAMEWORK

The study will be restricted toward the innovation on textile surface ranges in Textile Designs specialty such Batik, Printing and Fiber. The selection will concentrate to Educator Practitioners who engage in Textile Designs Department based on design explorations. Toward the research progressions, (4) Persons have being considered on every proposed majoring. Total number for entire propose respondent (Educator / Practitioners) is (12) that will be consider for the acquired research regulation.

- Batik: (4) persons, years above working experience in the Textile practices.
- Printing: (4) persons, years working experience in the Textile practices.
- Fiber: (4) persons, years working experience in the Textile practices.

The propose respondent will required to follow the entire research progression that being regulated by researcher. The permissions will be considered as part of the Consent Procedure that being requires by research methodology.

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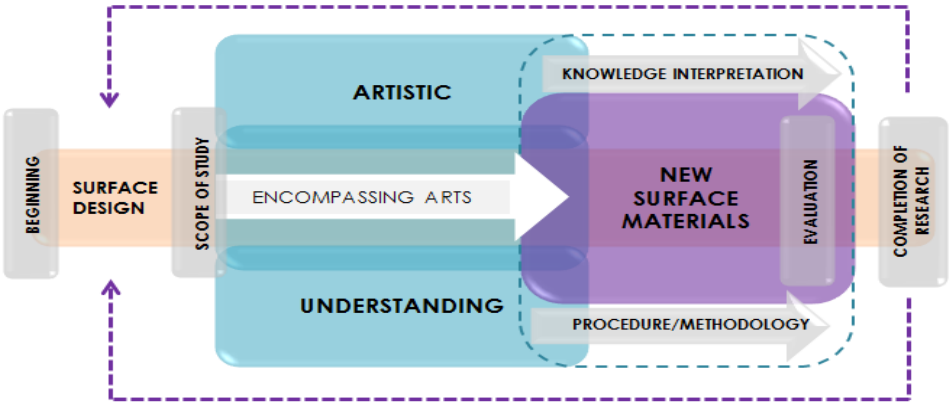

Fig. 3. Aesthetics appreciation theoretical framework has been modified from computer.

The contact of artistic appreciation is requires on design principal submissions on how entire design section and phase response under expected design surface. Handling the Textile Designs components will requires a proper systems approach and understanding on the broad representation. How and why the expected components will interrelate to achieve the optimal consequences on appropriate surface creation in design works applications. As represented in proposed framework, a set of theoretic description of such mapping has being developed. The researcher is attempting to investigate the feasibility in regards looking the reasonable exploration and creation. Moreover, statement from several descriptions toward the main components will adopted from model of perceptions and artistic applications. The theory is the amended from basis oriented design for aesthetics support arrangement. The actual development such a required system will represent the concerning spatial of design variables that specify on aesthetics demand. The interplanetary of aesthetic will include emerging characteristics should be proper formalized. Identically, the planning will specifies the uniqueness of aesthetic expressed intention that concluded the values of identity parameters and comprehend a design model to conforming the research intention.

RESEARCH FRAMEWORK PROGRESSION

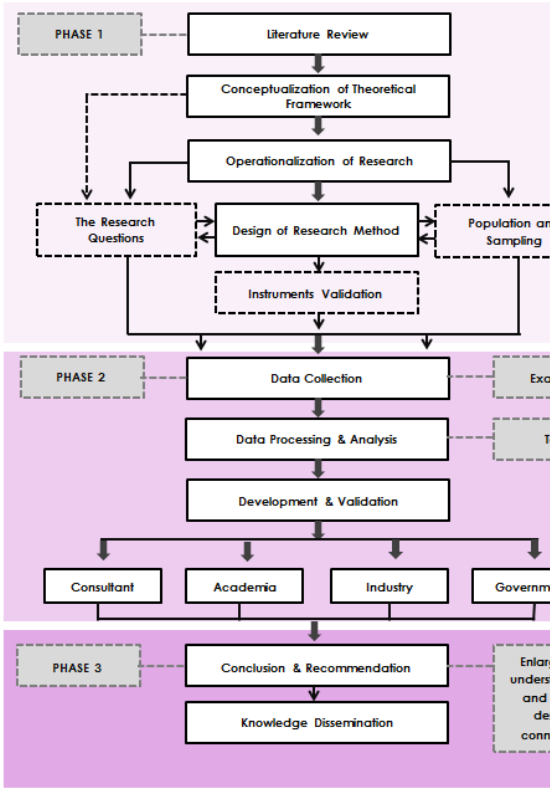

Fig. 4 (a). Flowchart of the research framework

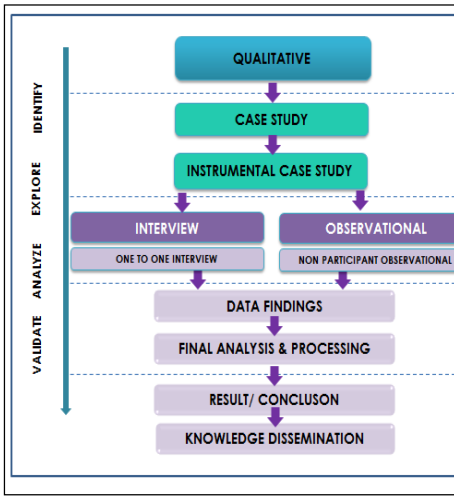

Fig. 4 (b). Research Methodology proposed in the aesthetic appreciation of in surface designs.

The respective framework, see [Fig. 4 (a)] is representing the acquired information and relation domain that will consider as the research on Qualitative in Art & Design nature. The evaluation will be set based on the proper establishment research structure and considerate the meaning involved in form of artistic elements. These will involve with 2 distinctive levels; Dissimilar level of trend development and specific trend such as explorative, explanatory and persuasive; Special level of profession expansion such as, educator practitioners and; Distinctive level of acquiring on work such as Art & Design conventions toward artistic industries. The proposed progressions will involve with the investigation that expected to be thoughtful and provoking. The essential and constant progress is to express the research questions and sources of data will be utilized after verifications from new findings being refined.

a. PHASE 1

The initial argument for this research, is define to the dynamic material artworks or Textile Designs interest. Literature review will endure from the early stage of the research identification. The clear understand toward the research terms will be defined (Anwar, Hassan & Abidin, 2015). Issues and problem with regards to the research interest will gain as much as possible with the related information and knowledge look / gap / hole. Researcher will conduct the exploratory research essentially indicate among the respective respondent. The considerations will be executed in while parallel to exploration enclosed with the required descriptive and slight matter in sequential about the innovative surface material. The outcome of the Qualitative design phase will comprehend the preliminary toward the artistic concern. The appreciation and feedback will be gain in supporting the specialized development for surface designs.

b. PHASE 2

In the following phase, the researcher originates to understanding and formulating the need of design transpires for the opportunities of research framework. Accordingly, the preliminary revision will be conducted among expertise about characteristic and style of design to be resolve. The research questions will integrate with the intention defines additional surface material in Textile Designs approach. Adaptation from respective theory will be associated with the material towards surface design interest (Anwar, Hassan & Abidin, 2015). In order to provide the rationale, the literature considerations will concrete the research manner and provide guidance to classify knowledge gaps. By considerate statement from: (Lars Hallnas, 2009), the research will be undertaken into the specify design works interaction. The information will facilitate researcher to bring out the alternative and propose concepts in several research development or argument associated to the textile surface complications. For getting the better framing to the research progressions, the aesthetics appreciation model will consider for research application. The proposed innovative material for surface design will facilitate by the qualified respondents that be selected based on their expertise. By enclosed the acquired formation based from Textile Designs model will be revised. Evaluating toward framing and re-framing research procedure (Anwar, Abidin & Hassan, 2015) will be consider based on exploration for surface intention in Textile Designs. The conclusive stage will determine by initial the integration procedures between applicable resources for surface design. The principle of measurable for apparent integration with artworks will be confirmed and verify by proficient and qualified respective specialist interpretation. According statement by (Abidin, 2012), the verification of design research will be based on logical verification and verification by acceptance. In order to establish the applicable and relevance guidelines, the validation will be apprehending based acquired theories. Abidin (2012) has further stated to the research validity is consider important degree which able to examine on measures on what research supposed to be indicated such as content area, constructions, and predictions.

The translation of research methodology, see [Fig. 4 (b)], which follows closely by adapting required proper research design model developed by respective preceding research. The understanding for the methodology selection relies in appropriate fact that extensively identified broad applied for exploratory purposes among research field. In relationships of design research, the methodology is academically established and demonstrated to be highly wide-ranging. By enclosed distinctive viewpoint, the methodology would be standardizing based on the appropriate research field. As specified in the research frame, the foundation of the study will consists of several important phases. The required methodology will be developed to review the key elements that will be focused on the applicable research design process and focusing the materials exploratory.

In order to explore the integration, a Qualitative research approach will be selected by enclosed innovative material surface design (Anwar, Hassan & Abidin, 2015). To developing the research impact, the study will be employed a single research design that consider to enclosed in research exploration. The contributions of single exploration Material Corporation in Textile Designs process by using innovative substance. Exclusively, the intention of the study will investigate how particular theory capabilities can be develop through the entire material exploratory on Textile Designs surface. The interviews progression is aimed to elicit the practitioners and expert perceptions on how the process of designing can support them to develop their artistic appreciation capabilities. This interviewed

will be based on Verbal Protocol Analysis (VPA) developed by Nigel Cross (1996) for the identification of design thinking and theory. The cooperation of selective practitioners will be determined by identical level of thinking and experience (Abidin et al., 2009). In order to construct guaranteed data or answered expected, the empirical apprehension will be thorough on how selective subject are being selected. Single type of exploratory research will be determined toward the respective interview that being originates with proper brief explanation. The purposes to get the information by conducting the interview are being deliberate necessary in study interest. The listed research interview questions will be undertaken with particular period toward the selected respondent. Subsequently, the audio-record data and photo will be proper transcribed after entire research interview being regulated.

The interview transcriptions will be analyze in essential phases including; Preliminary data analysis will explore the emerging issues and potential coming out themes. Research data as will specified the issues that needed to be further resolved. The investigation will be follow with applicable research procedure in entire interview. Subsequently, the actual regulation researcher will revise a lot uncertain situation by sensibly reviewing selected patterns or circumstances that transpired phenomenon. According to (Grbich, 2007), has pointed into the thematic data analysis matter that generates the themes on the role of material on Textile Designs development.

CONCLUSION

From the respective Art & Design theory is highly influential on research range disciplines and including sensibility toward the artistic fieldwork study. Artistic persons have long used visual principles into the multiple dimensional bodies of works such as images and print layouts. By doing those progression thoroughly, the improvement toward the composition will be proper organize information and enhance the visual communications. While, researchers have to understand about the visual laws and will be presented in qualified visual intentions. Most of the work being presented in two-dimensional and several interactive items are significantly presented. By applying visual theory in the research, the interactive alternative media in designs will be comprehended the visual laws within visual framework. The interactive design processes will provides respective respondent with a scientific structure, which able are analyze and visually improve the intention designs. Understanding artistic principles will stretch greater mechanism over the visual and designs. The creations will be presented additional pleasant designs and increase the possibility toward the applicable message that convince communicated to respective audience. Through the propose study, visual attention on affordances can be brought into the clear understanding and undeniably important for design implementation. However, when comes at certain situation the acquired instrument is not available as designs support material in formulating a product with effective functions. Perhaps, researcher prospect is to achieve the research provision with an explanation that takes advantage on aesthetics interaction. The dynamic and design nature will presented with the various operations that forms the aesthetic into the expected experience.

Along with the matter, researcher anticipates to introduce a possible relation to perceiving have enough Textile Designs innovation through the reliable interactions. The explanation will improve audient about the understanding toward the potential design interaction and practice. The aesthetics knowledge will interact the responsibility in composition in making design decisions. Additionally, the provision about innovation adaptation wills effects the affordances and interacts to aesthetics on how an artifact or product design is perceived. Design process and interaction from aesthetics functions will recommend the proper mechanism in a way that evaluates the Element and Principle requirements that motivates successful interactions. An appropriate design-representation will form when the research respondent participate in evaluated the interactive potentialities knowledge through aesthetics experience. In order to achieve convinced expectations and moderate design principles, artifacts will incorporated with potentialities interactive that correspond to the interactive affordances. Through the particular artistic experiences, respondent will able to allocate principles toward the potentialities interactive in design aspects. Thus, by enhancing the aptitude will promote interactive affordances and reducing the uncertainty design complication. In general, interaction aesthetic support research respondent improve the process by which interactive affordances are detected. Though, to start and set out the explicitly explorations will involve in relations between attitude and sequential form. In order to position an emphasis data, researcher might deliberate about concerning textile and additional material from an aesthetic point of view. The expected innovation program will allocate much supplementary with the upcoming issue on artistic media integration. The response will increasing body of work in such innovation media a frequently involved technology driven development. Artistic determination on Textile Designs will be generating solutions for uncertain problem. Textile Designs interaction and the required form are interconnected to each other design department have been neglected and how an often technology-driven development resolves the risks.

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The Ability To Assertion Of Graduates In Regions Of The Czech Republic

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ABSTRACT

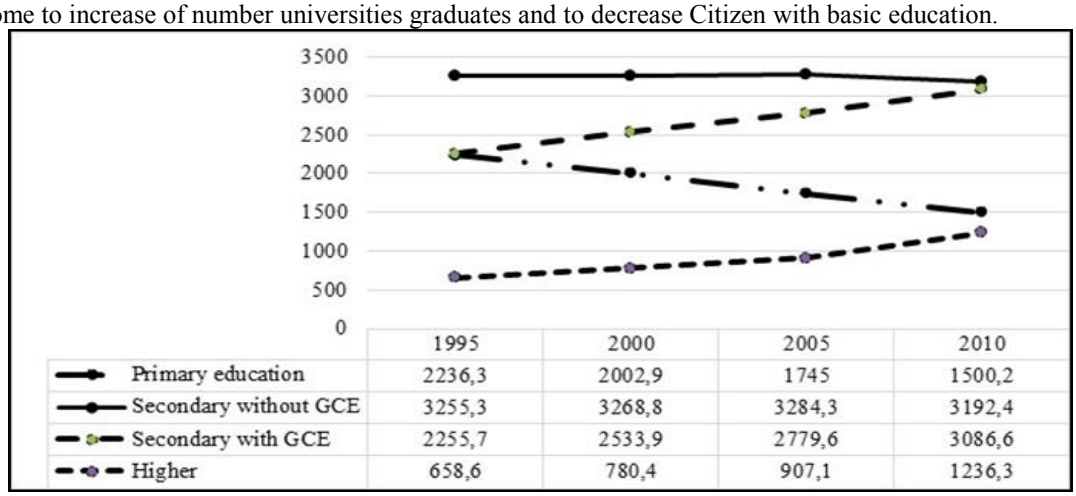
The abilities to compete with other regions are appear from the social-economic development of the region. The competitiveness is given of region development, in the sense of development of business activities, development of positive social environment and so on. The several scientific papers and materials affirm that the level of population´s knowledge is one of the conditions of region development and his competitiveness, and then it affirms that the level of education is one of the determinants of ability to assertion in labour market. On base of these affirmations the paper will deal with the ability to assertion of graduates in particular regions in The Czech Republic.

Keywords: university; employability; graduate; region; education;

1. INTRODUCTION EMPLOYABILITY OF GRADUATES

The Czech Republic and its regions and districts of administration are like other regions in EU, since 1989 year, open and proexport economics. The globalization is occurring on several economics still more and it put the accent on human resources as an advantage of economic. The growth of importance high competent work labour, ability to additional education and adapting for several regions is the competitive advantage and the challenge for inflow of capital and investments. As far as structure of population education, in period 2003-2010, its marked changed (see Figure nr 1).

1). Come to increase of number universities graduates and to decrease Citizen with basic education.



	1995	2000	2005	2010
Primary education	2236,3	2002,9	1745	1500,2
Secondary without GCE	3255,3	3268,8	3284,3	3192,4
Secondary with GCE	2255,7	2533,9	2779,6	3086,6
Higher	658,6	780,4	907,1	1236,3

Fig. 1 The structure of citizens' education

Qualifications and absence of experience is even more difficult to the employability of graduates on the labor market. On the other hand, education is essential criterion for many employers. The progress of number unemployed graduates during the period of 2003 -2012 followed the economic situation in the country.

During the years 2003-2008 the number of registered graduates decreased. In the years 2008 -2012 a recession reacts negative, which results are an increase of the number of registered applicants, graduates (see Figure 2, Burdová).

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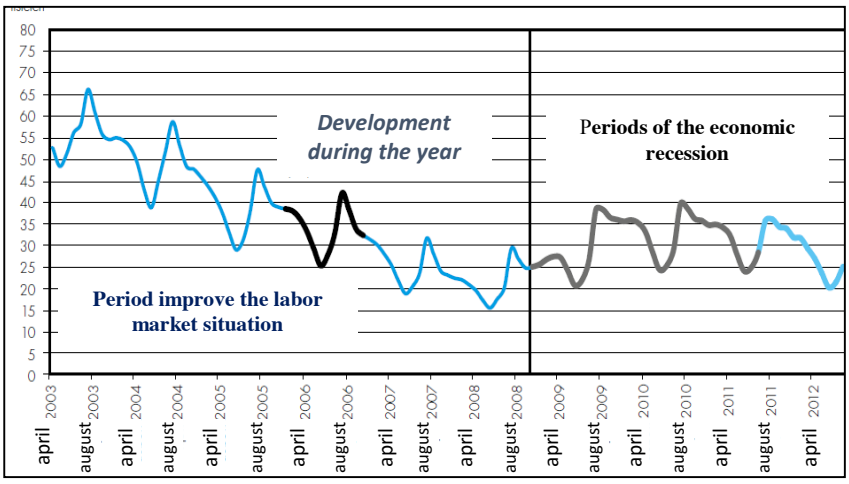

Fig. 2 The development of number unemployed graduates and young people (April (duben) 2003-August (říjen) 2012, in ts.)

On the basis of the analysis was evaluated the ability to assertion of graduates according achieved education. The analysis is based on the evaluation of time period in two seasons. In first quarter (data for April) analyzed year and in September (ie 9th month) analyzed year.

These two terms are significant to the registration of graduates on the labour office, the students end their study and they are going from a full-time student status to the applicant status or employee status. For the evaluation of the location was used the semaphore method, when the data was divided at the minimum (green), the maximum (red) and 50% percentile (orange).

2. DEVELOPMENT OF REGISTRATION GRADUATES - LEVEL EDUCATION BY DISTRICT

On Figure 3 we could see, that during all observe period are the most registered in absolute numbers graduates in the period from September to August. It is due to the fact that students most often ended their studies in term, usually in June, and subsequently they used during July and August the statute of the student. The largest contributor to the unemployment of graduates is the Moravian-Silesian region, followed by South Moravian Region and Region Usti nad Labem.

Table 1 The total number of registered graduates in several regions ČR

	4/2002	9/2002	4/2003	9/2003	4/2005	9/2005	4/2007	9/2007	4/2009	9/2009	4/2011	9/2011
Prague	1 597	2 750	1 891	2 805	1 355	1 978	905	1 233	658	1 296	1 397	1 510
Central region	3 424	5 631	522	5 338	2 169	3 550	1 501	2 398	1 706	2 994	2 456	2 965
South Bohemian	1 872	3 366	2 003	3 134	1 445	2 283	970	1 472	1 450	2 026	1 583	1 739
Pilsen region	1 306	2 547	1 416	2 330	1 004	1 736	709	1 155	942	1 478	1 000	1 241
Karlovy Vary	1 252	1 865	985	1 498	792	1 032	500	671	601	967	742	900
Ústí region	5 581	7 179	4 593	5 892	3 218	4 286	2 214	2 687	2 069	3 100	2 403	2 702
Liberec region	1 614	2 298	1 560	2 205	916	1 444	672	1 030	878	1 282	1 032	1 348
Hradec Kralove	1 448	2 781	1 773	2 752	1 338	1 934	752	1 228	986	1 780	1 174	1 603
Pardubice	1 729	3 061	2 007	3 096	1 573	2 267	874	1 364	1 155	2 022	1 319	1 712
Highlands	1 938	3 881	2 542	3 522	1 696	2 646	1 145	1 711	1 495	2 401	1 848	2 156
South Moravian	5 588	8 770	5 664	7 783	4 577	5 847	2 614	3 579	2 661	4 437	3 609	4 281
Olomouc	3 829	5 475	3 997	4 487	2 347	3 034	1 303	1 886	1 592	2 690	2 103	2 455
Zlin region	2 646	4 250	3 515	4781	2 258	2 909	1 374	1 881	1 616	2 394	1 844	2 332
Moravian-Silesian	11 244	15 356	9 864	1057 7	6 469	7 341	3 672	4 439	3 079	4 741	3 951	4 279
Total CZ	45 068	69 210	45 375	6020 0	31 157	42 287	19 205	26 734	20 888	33 608	26 461	31 223

The most affected by unemployment are graduates with less education, in view of the analysis of requirements in a Labour offices portals and personal agencies. It was traced that employers have increased demands for knowledge and skills. Also, for increase the probability of ability to assertion of graduates, on the basis of certain level of education attaches employment agents. According to staff of Labor offices employability is influences not only with the economic and socio-demographic development in the region, as well as access to job search, education level, level of key competences, field of education and skills, abilities and work experience (see Figure 3, The European Social Fund).

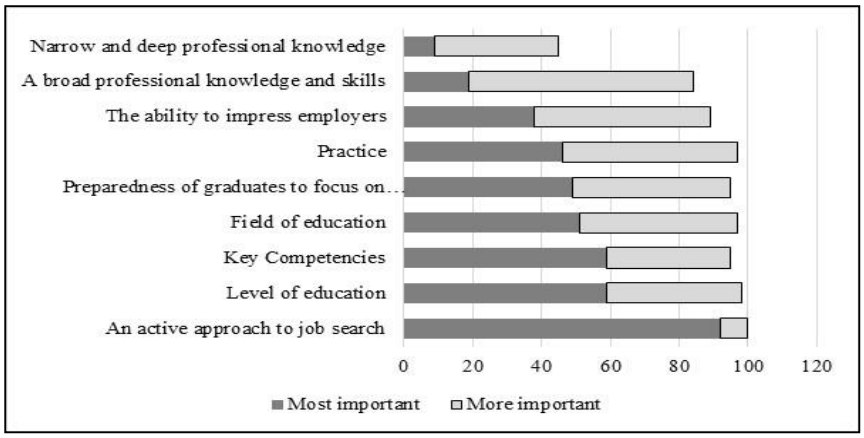

Fig. 3 The importance of factors, which influence good employability of graduates

At the least of the registered graduates during the years 2002, 2003, 2005, 2007 and 2009 were in labour offices in the regions of Karlovy Vary, Liberec and Hradec Králové. The highest number of registrations graduates in the Moravian-Silesian Region had the district Karviná and Ostrava - city. (See Figure 3, table 1).

Table 2 Number of graduates in the regions of the Czech Republic

	4/2002	9/2002	4/2003	9/2003	4/2005	9/2005	4/2007	9/2007	4/2009	9/2009	4/2011	9/2011
Bruntál	595	810	625	835	516	613	276	357	338	516	436	431
Frýdek-Místek	1 693	2 115	1 810	2 093	1 221	1 429	674	840	479	867	599	677
Karviná	3 586	4 743	2 144	2 488	1 693	1 929	1 028	1157	742	1 145	915	954
Nový Jičín	1 236	1 659	1 108	1 340	669	756	283	438	318	372	309	490
Opava	1 680	2 410	1 279	1 624	879	1 057	575	649	545	808	673	701
Ostrava-město	2 454	3 619	2 898	2 197	1 491	1 557	836	998	657	1 033	1 019	1 026

The graduates with higher education, it means the doctoral degree and university education, have the best ability to assertion, according to CSO data analysis. Regarding the employability of graduates in 2003 and 2011 (like in the case in 2007 and 2009) in several table 2, 3 (the value of x - cannot be evaluated) is clear that the most of applicants - graduates with higher education have better ability to assertion.

The highest ability to assertion of graduates is in The Pilsen Region, The Ústí Region, Liberec Region and Moravian-Silesian Region. On the other hand the worst ability to assertion of graduates of doctoral studies is in Hradec Králové Region and Zlin Region.

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Table 3 Employability of graduates in the regions of the Czech Republic 9/2003

Education[2]	D	E	H	J	K	L	M	N	R	T	V
Prague	x	15,6	19,0	x	12,0	12,6	21,3	52,9	31,8	54,3	71,4
Central region	x	24,9	28,5	0	41,4	26,2	34,9	37,5	49,4	71,6	125,0
South Bohemian	0	23,6	32,5	x	48,8	35,8	37,3	48,2	66,7	91,4	150,0
Pilsen region	50	19,1	23,2	x	32,1	24,6	25,9	32,7	29,2	80,7	300,0
Karlovy Vary	x	15,3	25,5	0	11,5	27,7	32,3	23,8	45,8	96,4	100,0
Ústí region	50	18,8	27,3	66,67	23,8	24,7	29,3	28,1	47,1	80,2	183,3
Liberec region	x	22,3	29,7	0	22,2	31,1	29,1	47,1	53,2	108,1	225,0
Hradec Kralove	0	21,4	24,6	0	20,6	27,8	24,9	31,5	52,1	88,9	12,5
Pardubice	0	15,8	27,8	0	22,2	30,8	25,1	30,2	55,2	95,7	120,0
Highlands	x	6,7	28,0	0	37,5	30,5	29,0	29,8	58,2	75,0	71,4
South Moravian	0	19,2	21,9	100,00	23,3	22,7	24,6	30,8	47,9	68,7	60,0
Olomouc	0	15,0	19,6	x	14,7	19,6	25,2	35,1	40,3	71,6	66,7
Zlin region	x	16,4	20,1	25,00	20,5	21,3	23,2	59,3	62,5	65,0	40,0
Moravian-Silesian	100	23,2	28,6	0	32,0	27,8	27,5	32,5	53,4	64,1	185,7

Relatively good ability to assertion of graduates with university education is in Liberec Region, Karlovy Vary Region and The Pardubice Region. The Moravian-Silesian Region is ranked after Prague on the latest place and it has the lowest rate of ability to assertion of university educated graduates. By 2011, the employability had improved of university graduates in the Moravian-Silesian region (see table 4).

Table 4 Employability of graduates in the regions of the Czech Republic 9/2011

	D	E	H	J	K	L	M	N	R	T	V
Prague	x	12,2	27,0	0	45,0	39,6	29,5	30,8	42,3	67,1	107,7
Central region	x	26,7	33,9	0	49,3	41,5	40,9	36,2	59,7	86,2	100,0
South Bohemian	0	33,6	42,2	x	45,5	51,1	62,6	50,6	90,9	79,5	150,0
Pilsen region	x	33,3	41,0	x	13,3	44,2	42,9	27,3	51,9	70,1	150,0
Karlovy Vary	x	17,6	29,1	0	19,4	47,4	30,3	15,0	46,9	73,0	x
Ústí region	0	21,5	28,2	0	39,3	45,4	37,2	35,4	62,6	72,1	200,0
Liberec region	x	33,3	26,7	0	25,9	36,1	35,2	34,5	48,1	89,3	66,7
Hradec Králové	0	21,8	30,4	x	33,3	44,2	35,6	28,8	54,5	80,2	125,0
Pardubice	x	34,2	37,3	0	40,0	41,1	38,9	44,3	53,8	96,7	100,0
Highlands	0	17,1	34,1	0	26,8	38,0	38,2	51,5	51,5	101,4	166,7
South Moravian	0	22,0	35,8	0	25,4	38,2	37,1	33,7	53,6	73,9	42,9
Olomouc	x	21,9	34,8	x	19,7	32,6	32,3	29,0	43,6	87,6	100,0
Zlin region	0	19,2	27,6	x	25,5	43,5	30,8	43,3	40,3	82,5	57,1
Moravian-Silesian	x	21,8	34,9	x	26,5	50,3	42,3	43,2	50,2	90,6	158,3

In terms of specific municipalities with extended competence, e.g. Teplice, Kroměříž, Ostrava and Karviná and Ostrava (in 2003) has the worst ability to assertion of students within the framework of evaluation of the ability to assertion of university graduates, on based of selected municipalities (see table 5, 6). Generally, the employability of graduates is below the national average. In Karviná is the greatest interest in the graduates with higher education, and even here, it is unable to fully meet the demand of graduates after work. This fact is due to that Karviná District is a district with considerable restructuring problems and this district is an area with high long-term unemployment in the context of municipalities (2nd place).

[2] D – Lower secondary education, E - Lower secondary education, H - Secondary vocational education with a vocational certificate, J -Secondary vocational and apprenticeship without GCE certificate, K- USV Gymnasium, CSE apprenticeship and graduation, L - CSE apprenticeship and graduation, M - CSE vocational school (without apprenticeship), N - Higher Vocational Education, R - Bachelor of Education, T - Higher education, V - Doctoral education

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Table 5 The location of applicants – graduates - selected municipality with extended competence 9_2003 (0- not graduate)

9/2003	D	E	H	J	K	L	M	N	R	T	V
Praha	x	15,56	18,96	x	12,00	12,65	21,25	52,94	31,82	54,27	71,43
Benešov	x	23,53	30,38	x	0,00	32,10	34,83	25,00	100,00	94,44	x
Beroun	x	25,00	23,81	x	150,00	23,81	41,82	133,33	300,00	87,50	x
Kladno	x	37,50	33,58	x	37,50	29,79	31,71	66,67	41,67	55,88	x
Kolín	x	0,00	40,38	x	33,33	20,00	54,29	16,67	x	100,00	x
Kutná Hora	x	75,00	32,00	x	50,00	34,62	59,09	27,78	50,00	142,86	x
Mělník	x	5,26	20,83	x	60,00	36,23	37,50	22,22	26,67	70,59	x
Mladá Boleslav	x	33,33	28,95	x	0,00	30,77	34,88	83,33	50,00	83,33	200,00
Nymburk	x	25,00	48,00	x	36,36	9,76	21,57	33,33	0,00	61,54	x
Praha-východ	x	35,71	10,87	x	33,33	9,52	18,00	10,00	0,00	100,00	x
Praha-západ	x	16,67	16,22	x	0,00	21,43	20,00	16,67	200,00	30,77	0,00
Příbram	x	17,50	23,74	0,00	52,94	27,17	30,37	34,62	40,00	55,32	100,00
Rakovník	x	36,36	31,15	x	62,50	20,69	51,39	200,00	50,00	113,33	x
České Budějovice	x	14,29	22,40	x	66,67	28,21	40,95	53,85	52,38	75,82	200,00
Český Krumlov	x	20,00	32,94	x	0,00	27,03	39,53	33,33	14,29	85,71	x
Jindřichův Hradec	x	31,58	36,45	x	75,00	39,29	29,89	37,50	91,67	96,77	100,00
Písek	x	23,08	35,06	x	66,67	37,93	26,15	33,33	44,44	158,33	x
Prachatice	x	28,57	40,91	x	66,67	51,52	75,00	66,67	85,71	135,29	200,00
Strakonice	x	18,18	49,09	x	0,00	27,27	29,41	71,43	66,67	87,50	0,00
Tábor	0,00	31,82	29,21	x	44,44	43,18	35,29	41,18	112,50	87,80	x
Domažlice	x	30,00	26,67	x	100,00	28,13	23,53	22,22	60,00	100,00	x
Klatovy	x	46,15	28,13	x	0,00	24,24	23,75	23,08	20,00	65,12	x
Plzeň-město	0,00	9,52	14,61	x	66,67	38,71	27,50	40,00	16,67	70,37	x
Plzeň-jih	x	20,00	12,33	x	16,67	10,71	30,61	12,50	33,33	171,43	x
Plzeň-sever	x	8,33	31,08	x	0,00	30,00	19,35	33,33	60,00	83,33	0,00
Rokycany	x	22,22	35,48	x	33,33	32,14	34,48	33,33	0,00	85,71	x
Tachov	x	13,33	24,73	x	42,86	9,09	27,59	100,00	33,33	100,00	x
Cheb	x	4,17	26,09	x	0,00	25,00	30,91	20,00	16,67	150,00	x
Karlovy Vary	x	33,33	26,47	x	20,00	25,40	32,28	23,08	46,15	70,59	100,00
Sokolov	x	9,26	24,17	x	11,11	33,33	32,89	33,33	80,00	128,57	x
Děčín	x	15,69	25,60	x	46,15	31,67	29,70	33,33	171,43	109,52	0,00
Chomutov	x	21,43	46,67	x	31,58	26,58	39,86	0,00	125,00	83,33	x
Litoměřice	x	20,83	28,00	x	27,27	18,31	31,62	19,05	66,67	91,67	x
Louny	x	52,00	35,71	x	11,11	34,29	33,90	100,00	50,00	50,00	x
Most	x	22,50	39,20	x	5,88	24,72	23,53	25,00	36,84	62,50	x
Teplice	x	10,77	29,03	x	22,22	18,18	20,90	14,29	71,43	30,77	x
Ústí nad Labem	x	21,67	28,23	x	36,36	18,18	31,13	80,00	42,86	96,30	200,00
Česká Lípa	x	26,09	26,56	x	22,22	29,31	24,03	50,00	14,29	140,00	x
Jablonec nad Nisou	x	38,46	35,82	x	25,00	36,00	36,84	53,85	46,15	126,67	66,67
Liberec	x	22,22	29,17	x	16,67	26,15	31,11	68,75	60,00	91,43	300,00
Semily	x	0,00	30,65	x	25,00	41,38	28,36	22,22	85,71	107,14	x
Hradec Králové	x	13,16	21,05	x	0,00	24,36	20,18	37,93	53,33	87,84	33,33
Jičín	x	25,00	24,30	x	50,00	12,77	37,33	33,33	85,71	107,41	0,00
Náchod	0,00	19,23	23,81	x	14,29	35,00	32,00	85,71	37,50	105,00	0,00
Rychnov nad Kněžnou	x	18,75	26,67	x	0,00	35,56	26,23	15,79	150,00	60,00	x
Trutnov	x	32,26	27,49	x	33,33	36,84	17,29	20,00	27,27	80,95	0,00
Chrudim	x	26,32	19,41	x	25,00	31,51	26,09	21,05	70,83	100,00	0,00

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Pardubice	0,00	10,34	28,18	x	12,50	29,63	25,19	9,38	68,18	93,65	100,00
Svitavy	x	12,82	23,53	x	28,57	31,71	18,52	42,86	30,00	77,14	150,00
Ústí nad Orlicí	0,00	13,56	40,37	x	20,00	30,00	30,56	43,33	50,00	109,52	200,00
Havlíčkův Brod	x	0,00	24,80	x	10,00	26,74	18,92	40,00	68,00	73,17	x
Jihlava	x	2,44	24,05	x	42,86	25,81	29,53	10,00	47,22	69,23	x
Pelhřimov	x	5,00	48,15	x	100,00	23,81	47,17	0,00	81,82	75,76	x
Třebíč	x	10,53	24,78	x	41,67	32,69	26,71	42,11	50,00	58,90	0,00
Žďár nad Sázavou	x	15,79	31,64	x	28,57	36,70	32,12	32,26	57,14	104,00	0,00
Blansko	x	8,70	24,62	x	10,53	19,64	18,33	25,64	30,43	87,30	100,00
Brno-město	0,00	5,00	26,00	0,00	35,71	33,82	28,89	50,00	42,86	63,28	80,00
Brno-venkov	0,00	11,11	12,20	x	22,73	17,12	22,28	25,00	50,00	63,38	25,00
Břeclav	x	35,29	20,69	x	34,62	25,45	27,53	23,81	57,14	83,87	x
Hodonín	x	18,37	23,48	x	20,00	22,05	24,31	35,90	61,54	59,43	100,00
Vyškov	x	26,09	27,52	x	15,38	32,08	21,99	16,67	38,10	53,85	0,00
Znojmo	x	27,78	24,14	x	18,75	20,54	28,57	37,50	60,00	90,91	66,67
Jeseník	x	22,22	31,15	x	0,00	25,81	26,67	14,29	142,86	160,00	x
Olomouc	x	14,00	17,93	x	20,59	20,09	24,54	36,36	32,76	79,66	x
Prostějov	x	10,00	14,89	x	25,00	16,09	27,94	30,00	41,67	60,61	x
Přerov	x	8,93	17,45	x	8,33	16,80	24,35	66,67	57,14	65,08	50,00
Šumperk	0,00	22,45	23,45	x	0,00	23,23	24,83	27,78	21,43	56,94	0,00
Kroměříž	x	15,91	18,12	x	18,18	19,28	28,23	69,23	64,00	32,39	x
Uherské Hradiště	x	16,67	20,24	x	50,00	23,47	21,84	45,45	57,89	133,33	0,00
Vsetín	x	11,11	18,93	x	7,69	16,67	24,14	42,86	53,57	84,52	0,00
Zlín	x	19,61	23,04	x	27,27	25,88	19,66	75,00	70,00	52,38	x
Bruntál	x	23,91	22,47	x	44,00	26,67	14,97	66,67	25,00	66,67	x
Frýdek-Místek	x	25,71	27,27	x	38,89	30,56	24,53	25,00	50,00	77,88	25,00
Karviná	x	15,94	24,59	x	17,86	16,44	32,99	27,78	33,33	51,72	x
Nový Jičín	x	22,58	30,00	x	66,67	36,36	32,53	81,82	100,00	87,80	300,00
Opava	200,00	30,19	32,32	x	8,33	43,97	31,75	33,33	85,71	67,65	150,00
Ostrava-město	0,00	23,44	33,43	x	42,86	26,90	28,94	10,53	34,78	54,48	x

By 2011, university graduates the employability in the Municipalities have improved largely as before its university graduates. On the contrary, worsened e.g. Klatovy, Litoměřice, Most, Teplice and Zlin (details see Table 5.6)

Table 6 The location of applicants – graduates - selected municipality with extended competence (% rate located graduates/base, in 9/2011)

9/2011	D	E	H	J	K	L	M	N	R	T	V
Praha	0,00	12,24	27,03	0,00	45,00	39,65	29,50	30,77	42,31	67,14	92,86
Benešov	x	50,00	42,03	x	200,00	38,10	48,10	47,62	81,25	100,00	x
Beroun	x	0,00	57,45	x	0,00	28,57	50,00	0,00	80,00	150,00	x
Kladno	x	44,12	41,67	x	55,56	43,06	36,88	107,14	**23,53**	119,44	x
Kolín	x	0,00	7,81	x	0,00	27,78	16,67	0,00	28,57	57,14	x
Kutná Hora	x	0,00	45,83	x	x	40,00	57,89	33,33	33,33	150,00	x
Mělník	x	15,63	34,96	0,00	100,00	43,14	38,98	10,00	62,50	90,63	x
Mladá Boleslav	x	20,00	11,11	x	33,33	34,48	13,56	12,50	53,33	66,67	x
Nymburk	x	14,29	46,67	x	16,67	69,57	43,14	16,67	40,00	78,57	0,00
Praha-východ	x	20,00	29,41	x	40,00	46,94	42,17	0,00	233,33	41,18	x
Praha-západ	x	25,00	18,52	x	25,00	26,83	37,50	33,33	100,00	59,26	100,00
Příbram	x	29,17	35,65	0,00	44,44	39,58	55,34	43,75	71,43	75,76	0,00

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Rakovník	x	44,44	35,00	x	50,00	59,09	43,94	33,33	66,67	68,75	x
České Budějovice	x	23,33	44,53	0,00	33,33	46,97	62,11	52,17	80,43	76,42	50,00
Český Krumlov	x	42,86	40,00	x	x	94,12	66,67	100,00	170,00	121,43	100,00
Jindřichův Hradec	x	44,44	46,67	x	66,67	58,82	75,00	36,36	81,25	78,95	200,00
Písek	x	45,45	43,08	x	0,00	36,36	58,33	37,50	61,54	83,33	0,00
Prachatice	x	25,00	50,98	x	100,00	114,29	85,71	100,00	81,82	92,31	0,00
Strakonice	x	30,00	26,15	x	0,00	27,27	27,50	85,71	100,00	70,37	x
Tábor	x	33,33	42,35	x	71,43	44,00	65,63	44,44	100,00	75,00	x
Domažlice	x	27,27	52,50	x	0,00	42,11	25,64	12,50	133,33	200,00	x
Klatovy	x	33,33	49,12	x	0,00	51,72	43,86	25,00	38,46	60,98	0,00
Plzeň-město	0,00	50,00	25,35	x	0,00	57,14	49,25	23,08	41,46	65,79	100,00
Plzeň-jih	x	54,55	34,04	x	33,33	26,92	55,17	25,00	40,00	47,06	x
Plzeň-sever	x	20,00	43,48	x	0,00	23,81	43,40	0,00	46,15	80,00	100,00
Rokycany	x	0,00	33,33	xx	100,00	60,00	37,50	300,00	100,00	60,00	x
Tachov	x	30,77	51,92	x	0,00	50,00	40,63	75,00	83,33	77,78	x
Cheb	x	7,14	45,24	x	0,00	100,00	32,08	25,00	116,67	88,89	x
Karlovy Vary	x	20,59	24,62	x	36,36	30,23	32,32	0,00	50,00	52,38	x
Sokolov	x	18,92	28,57	x	16,67	52,17	27,87	50,00	21,05	114,29	x
Děčín	x	22,22	26,83	x	16,67	47,37	43,41	64,71	82,35	125,00	x
Chomutov	x	13,51	30,77	x	66,67	42,50	49,07	38,89	25,93	83,33	x
Litoměřice	x	23,08	23,76	0,00	66,67	36,17	38,40	36,36	92,31	31,03	x
Louny	x	12,90	33,33	x	150,00	65,38	36,36	21,43	31,58	109,52	x
Most	x	31,25	24,66	x	33,33	37,50	23,39	42,86	58,62	51,28	x
Teplice	x	22,92	31,20	x	30,00	36,00	28,43	13,33	111,11	52,00	0,00
Ústí nad Labem	x	26,42	27,72	x	23,08	64,44	42,35	14,29	66,67	96,00	33,33
Česká Lípa	x	12,24	26,39	x	50,00	36,96	31,34	60,00	46,15	109,09	x
Jablonec nad Nisou	x	20,00	23,33	x	0,00	40,63	36,99	26,32	72,22	112,50	x
Liberec	0,00	86,96	24,26	0,00	75,00	29,79	46,07	58,33	30,77	79,17	166,67
Semily	x	30,00	35,53	0,00	12,50	39,39	24,53	21,05	54,55	70,37	100,00
Hradec Králové	x	31,58	34,31	x	100,00	53,73	31,16	31,58	51,56	64,55	50,00
Jičín	x	18,18	28,99	x	33,33	40,00	56,52	20,00	93,75	81,82	x
Náchod	x	19,05	33,33	x	0,00	25,00	41,27	25,00	37,04	81,08	100,00
Rychnov nad Kněžnou	x	18,18	44,44	0,00	75,00	66,67	36,96	11,11	140,00	128,57	x
Trutnov	x	14,81	21,64	x	7,69	33,33	28,83	41,18	36,36	131,58	50,00
Chrudim	x	37,50	44,76	x	0,00	44,19	54,12	33,33	58,62	92,86	25,00
Pardubice	x	43,33	31,21	x	40,00	37,78	43,93	72,73	66,67	91,30	0,00
Svitavy	0,00	32,26	25,71	x	28,57	33,90	22,76	60,71	38,71	93,62	x
Ústí nad Orlicí	x	25,71	51,69	x	120,00	51,16	40,35	24,00	46,67	109,26	x
Havlíčkův Brod	x	10,00	46,43	x	50,00	47,92	41,86	34,48	53,13	90,20	100,00
Jihlava	x	23,53	34,81	x	30,77	32,20	41,09	50,00	52,08	133,33	100,00
Pelhřimov	x	0,00	86,67	x	28,57	75,00	46,51	100,00	44,44	109,76	x
Třebíč	x	12,90	21,36	x	16,67	25,25	35,38	50,00	54,10	118,18	0,00
Žďár nad Sázavou	x	23,81	34,85	0,00	25,00	43,24	32,52	54,05	48,72	74,39	0,00
Blansko	x	36,36	31,53	0,00	27,27	34,43	40,00	25,00	76,19	105,66	200,00
Brno-město	0,00	15,79	23,57	0,00	0,00	27,66	21,71	21,21	32,14	59,39	300,00
Brno-venkov	x	24,32	34,21	0,00	57,14	41,28	40,57	50,00	75,76	67,48	150,00
Břeclav	x	24,00	46,51	x	16,67	34,94	33,93	58,33	51,52	87,72	x
Hodonín	x	13,95	39,69	x	30,00	44,27	37,56	40,00	58,70	78,95	x
Vyškov	x	11,11	31,25	x	28,57	42,86	42,20	25,00	47,83	74,42	x
Znojmo	x	45,00	37,80	0,00	35,29	42,19	47,89	33,33	52,00	88,00	0,00

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Jeseník	x	3,70	51,85	x	0,00	81,25	30,88	400,00	37,50	52,94	x
Olomouc	x	28,95	33,91	x	24,14	35,03	24,11	25,00	34,02	93,79	300,00
Prostějov	x	57,14	29,36	0,00	12,50	31,25	50,00	31,25	52,63	102,04	x
Přerov	x	23,08	38,46	x	30,77	36,25	33,63	16,67	55,88	71,95	0,00
Šumperk	0,00	20,51	30,43	x	0,00	15,85	35,96	33,33	51,85	92,59	0,00
Kroměříž	x	17,14	32,31	x	42,86	57,89	21,49	40,91	20,37	78,57	x
Uherské Hradiště	x	14,29	26,00	x	50,00	37,08	39,73	54,55	48,08	72,29	75,00
Vsetín	x	13,64	30,11	x	20,00	46,22	33,11	62,50	58,54	93,00	x
Zlín	x	28,57	22,70	x	16,67	39,60	31,76	31,58	39,33	83,20	x
Bruntál	x	13,51	23,42	x	4,17	35,71	39,67	0,00	58,33	96,77	300,00
Frýdek-Místek	x	32,26	50,33	x	8,33	73,08	52,42	36,36	58,70	101,71	250,00
Karviná	x	22,54	33,22	x	29,17	43,84	39,32	30,43	50,00	89,92	22,22
Nový Jičín	x	35,48	46,46	x	40,00	29,03	32,03	71,43	51,11	90,41	x
Opava	0,00	9,09	33,15	x	35,71	60,92	37,91	76,47	45,16	82,24	50,00
Ostrava-město	0,00	22,54	31,15	x	64,71	55,97	45,27	18,75	46,67	87,65	20,00

3. RESUME

From the graphs and tables is clear that the progress of the number of unemployed graduates is dependent on the economic development of the regions. It is clear that the most affected regions are the districts of the Moravian-Silesian Region (Karviná, Ostrava). The least ability to assertion of graduates has graduates with lower education. These findings confirm the generally valid conclusions. The ability to assertion depends on the level of achieved education and it confirms the trend at of knowledge-based economy. Nevertheless, this principle is not generally valid and in structurally affected regions could exist some disproportions. The paper is created within the project SGS 20/2014 "Analysis of the business environment in Karvina region" and it is a sub-analysis of a more extensive research.

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The Analysis Of Middle School Students' Attitudes Towards Mathematics In Terms Of Various Variables

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ABSTRACT
The purpose of this study is to analyze the middle school students' attitudes towards mathematics in terms of various variables (such as their achievements in different subjects, whether they get help while doing their mathematics homework or not etc.). In accordance with this purpose the study was designed according to scanning model. The data required for obtaining the stated objective were collected through; "Personal Information Form (PIF)" and "Mathematics Attitude Scale (MAS)". The study group is composed of 341 middle school students. 174 of the students are female (51,03%) and 167 of them are male students (48,97%). As a result of the analyses, it was appeared that the attitudes of middle school students differed significantly according to their achievements in different subjects (Mathematics, Science and Turkish). Besides, it was determined that the attitudes of students differed significantly according to their states like understanding mathematics, like playing games regarding mathematics and hope to do a profession in the future about mathematics. In addition to these, it was appeared that the attitudes of middle school student did not statistically differ according to whether they get help while doing mathematics homework, having own room and to the time allocated for studying mathematics. In this sense, it can be said that the academic achievements of students, their understanding regards mathematics, playing mathematical games and having a desire to do a profession about mathematics in the future are all important in their attitudes towards mathematics.

Keywords: Attitude, achievements in lesson, understanding, game, profession

INTRODUCTION

"Is Mathematics a nightmare?"

Many students in our country think that mathematics is difficult and they cannot be successful in mathematics. For this reason, they become anxious and develop negative attitudes towards mathematics. Unfortunately this situation continues as the school years proceeds. Ultimately, students reach a conclusion that they are not smart enough to learn mathematics and mathematics is not among the subjects that they can deal with (Baykul, 2011). At this point;

It is important to answer the question of "What is attitude?"

Smith (1968) defines attitude as a tendency which is attributed to a person and which regularly constitutes his/her thoughts, feelings and behaviors related with a psychological object (quoted from Kağıtçıbaşı, 2008). The concept of attitude is closely related with students' prior knowledge and beliefs. For this reason, it is said that attitude is a function of ideas which comes from an individual's own experiences (Sarpkaya, Arık & Kaplan, 2011). It can be said by moving from here that one of the most effective elements in constituting an attitude for an individual towards anything is his/her own perception. In this sense, it is thought that student's perception is important in constituting the attitude towards mathematics. The other factor in constituting an attitude towards mathematics is the family of the individual. Sharing negative experiences of the family about mathematics has an important role in developing negative attitudes towards mathematics for the students (Ekizoğlu & Tezer, 2007; Ünlü, 2007). It was determined that family support is significant in developing attitude towards mathematics (Papanastasiou, 2000; Yenilmez, 2007). Searching this factor which affects developing attitudes towards mathematics is seen as important. For this reason, in this study, it was aimed to analyze whether or not students receive any help while studying mathematics.

As the academic achievement is thought as another factor which effects attitude towards mathematics, the correlation between academic achievement and attitude has frequently been analyzed and a positive correlation was identified (Johnson, 2000; Tapia & Marsh, 2000; Yenilmez & Özabacı, 2003). At this point, however, Peker and Mirasyedioğlu (2003) stated that although students had low level of academic achievement in mathematics, they had positive attitudes towards mathematics. Ekizoğlu and Tezer (2007) could not find any effect of academic achievement variable on attitude. For this reason, it is thought that it is important to analyze the correlation between achievement and attitude.

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In the renewed Middle-school Teaching Mathematics Program, (MTMP) (Ministry of Education, 2013), one of the general purposes of teaching mathematics is stated as "the student will be able to develop positive attitude towards mathematics, he will be able to feel self-confidence". In this regard, it is though that attitude towards mathematics is still important and it is worth analyzing. For this reason the purpose of this study was to analyze middle school students' attitudes towards mathematics in terms of various variables (their achievements in mathematics and other subjects (science and Turkish), while doing their mathematics homework; whether to have his/her own room; whether to receive any help or not, time allocated for studying mathematics, whether to like or dislike mathematical games, whether to have a desire to have a profession related with mathematics in the future or not). For this, the answers of the following questions were sought.

Do the attitudes of the middle school students towards mathematics differ in terms of;

1. Their achievements in Mathematics and other subjects (Science, Turkish),
2. While doing their mathematics homework; whether to have his/her own room; whether to receive any help or not, time allocated for studying mathematics,
3. Whether understanding Mathematics or not, whether to like or dislike mathematics games, whether to have a desire to have a profession related with mathematics in the future or not?

METHOD

Research Design

This study is a descriptive study in scanning model. The purpose in this model is to try to describe a current situation as it is. It is tried to define the case, event, individual or object under investigation in their own conditions as they are (Karasar, 2007).

Study Group

The study was carried out with 341 students who are studying in a public school which is tied to Ministry of Education in İzmit, Kocaeli. 51,03% of the study group is composed of female students (n=174) and 48,97% is male students (n=167). 23,17% of the students are; 5th graders (n=79), 25,22% (n=86) 6th graders, 27,27% (n=93) 7th graders and 24,34% (n=83) 8th graders.

Data Collection Tools

The data were obtained through; "Personal Information Form (PIF)" and "Mathematics Attitude Scale (MAS)". In PIF, there are questions about the gender, grade levels, achievement scores etc. for identifying some of the demographic and personal information of students. The information obtained from PIF was discussed as the independent variables in comparing the attitudes of students towards mathematics.

The MAS is the 'What are your thoughts about Mathematics?' scale which is developed by Nazlıçiçek and Erktin (2002). In MAS, there are three dimensions as the achievement level perceived in Mathematics, the perceived benefits of Mathematics and the interest for Mathematics classes. The Cronbach Alpha reliability coefficient of the scale which was composed of 20 items stating positive or negative judgments was found as ,841. The reliability coefficients of the scale's sub-dimensions were calculated respectively as; ,67; ,59; ,69. The reliability coefficients of the scale were renewed within the scope of this study. In this sense, the Cronbach Alpha inter consistency coefficient was found as ,859; Spearman-Brown inter consistency coefficient as ,852 and Guttman Split-Half inter consistency coefficient as ,851. Later on, the reliability analyses regarding the dimensions of the scale were conducted. In this sense, alpha reliability coefficient of the perceived achievement level of mathematics was calculated as ,804; alpha reliability coefficient of the perceived benefits of the mathematics dimension as ,505; alpha reliability coefficient of the interest to the mathematics classes dimension as ,796.

Data Analysis

First of all it is necessary to decide whether the collected data will be analyzed by using parametric or non-parametric techniques. In this regard, whether the collected data has normal distribution or not was examined. In the cases where the group size is bigger than 50, it is suggested to use Kolmogorov-Smirnov (K-S) test (Büyüköztürk, 2012; Büyüköztürk, Çokluk & Köklü, 2010). Therefore, for deciding about the normality of the data in this study, Kolmogorov-Smirnov (K-S) test was employed (N=341). When the calculated p value is bigger than ,05, it is interpreted as the scores do not display significant deviation from normal distribution at this significance level and they are convenient (Büyüköztürk, 2012). As a result of analysis conducted for the collected data, it was determined the data regarding MAS (p= ,01 < ,05) does not have normal distribution. In addition to that, as a result of the normality analysis conducted for the sub-dimensions of the scale, it was determined that the data of the each three dimension does not have normal distribution (p= ,001 < ,05; p= ,000 < ,05; p= ,02 < ,05). In conclusion, it was decided to analyze the data by using non-parametric tests. In this regard, the analyses were

carried out by using Kruskal-Wallis and Mann-Whitney U tests. In the conducted analyses, SPSS 17.0 software was used and in all the analyses the significance level was accepted as " ,05".

FINDINGS

The first sub-problem of the study was determined as *"Do the attitudes of middle school students towards mathematics differ according to their achievements in various subjects?"*. The various subjects in this sub-problem referred to; Mathematics, Science and Turkish. In accordance with this sub-problem, it was analyzed that whether the attitudes of students towards mathematics differ according to their achievements in Mathematics, Science and Turkish lessons. For the analysis of the collected data, Kruskal-Wallis test was employed. In this sense, the findings obtained from the data regarding mathematics lessons are as in the following.

Table 1: Do the attitudes of the students towards mathematics differ according to their achievements in Mathematics lessons?

Mathematics Score	N	Mean Rank	sd	X^2	p	Significant Difference
1	8	76,06				
2	29	92,69				1-4; 1-5
3	106	124,29	4	95,294	,000	2-4; 2-5
4	100	180,67				3-4; 3-5
5	93	237,40				4-5

When Table 1 is analyzed, it is seen that the attitudes of students towards mathematics significantly differed according to their achievement scores in Mathematics lessons ($X^2 = 95{,}294$; p= ,000 < ,05). When mean rank is considered, it is seen that students whose mathematics score is 5 have the highest attitude score. The source of the significant difference occurred between the scores of mathematics achievement was determined by using Mann-Whitney U test which was conducted over binary combinations of mathematics scores. According to the results of the analysis; it was appeared that the attitude towards mathematics score of students whose mathematics achievement score is 5 is higher than the ones whose mathematics achievement scores are 1, 2, 3 and 4 and the differences are significant. Within the scope of the first sub-problem, the findings obtained from the data regarding science lessons are as in the following.

Table 2: Do the attitudes of the students towards mathematics differ according to their achievements in Science lessons?

Science Score	N	Mean Rank	sd	X^2	p	Significant difference
1	8	119,19				
2	20	90,28				1-5
3	85	141,11	4	51,523	,000	2-3; 2-4; 2-5
4	121	162,86				3-5
5	105	220,68				4-5

When Table 2 is analyzed, it is seen that the attitudes of students towards mathematics significantly differed according to their achievement scores in Science lessons ($X^2 = 51{,}523$; p= ,000 < ,05). When mean rank is considered, it is seen that students whose science score is 5 have the highest attitude score. The source of the significant difference occurred between the scores of science achievements were determined by using Mann-Whitney U test. According to the results of the analysis; it was appeared that the attitude towards mathematics score of students whose science achievement score is 5 is higher than the ones whose science achievement scores are 1, 2, 3 and 4 and the differences are significant. Within the scope of the first sub-problem, the findings obtained from the data regarding Turkish lessons are as in the following.

Table 3: Do the attitudes of the students towards mathematics differ according to their achievements in Turkish lessons?

Turkish Score	N	Mean Rank	sd	X^2	p	Significant Difference
1	5	116,70				
2	15	92,00				1-5
3	68	142,46	4	44,001	,000	2-3; 2-4; 2-5
4	127	153,14				3-5
5	123	121,94				4-5

When Table 3 is analyzed, it is seen that the attitudes of students towards mathematics significantly differed according to their achievement scores in Turkish lessons ($X^2 = 44{,}001$; p= ,000 < ,05). When mean rank is

considered, it is seen that students whose Turkish score is 4 have the highest attitude score. The source of the significant difference occurred between the scores of Turkish achievements was determined by using Mann-Whitney U test. According to the results of the analysis; it was appeared that the attitude towards mathematics score of students whose Turkish achievement score is 4 is higher than the ones whose Turkish achievement scores are 1, 2, 3 and 5. Besides, it was determined that the attitudes of students whose Turkish achievement score is 5, towards mathematics differed significantly according to students whose achievement scores are 1, 2, 3 and 4.

The second sub-problem of the study was determined as *"Do the attitudes of middle school students towards mathematics while doing their mathematics homework; differ according to whether to have his/her own room; whether to receive any help or not, time allocated for studying mathematics?"* In accordance with this, for the analysis of the collected data, Mann-Whitney U and Kruskal-Wallis tests were employed. The results of the analysis regarding the data collected from the case whether students have their own rooms or not, while they are doing their mathematics homework are as in the following.

Table 4: Do the attitudes of students towards mathematics differ according to their cases of receiving any help or not while doing their mathematics homework?

Do you receive any help?	N	Mean Rank	Mean Sum	U	p
Yes (Y)	171	176,99	30265,50	13168,5	,185
No (N)	168	162,88	27364,50		

When Table 4 is analyzed, it can be said that the attitudes of students towards mathematics did not significantly differ according to their cases of receiving any help or not while doing their mathematics homework (U=13168,5; p= ,185 > ,05). When mean rank is considered, it is understood that the attitude scores of students who received help while doing their homework is higher than students who did not receive any help. The results of the analyses regarding the data collected according to whether students have their own rooms or not are as in the following.

Table 5: Do the attitudes of students towards mathematics differ according their cases of having their own rooms or not?

Do you have your own room?	N	Mean Rank	Mean Sum	U	p
Yes (Y)	227	174,41	39592,00	11710,0	,238
No (N)	112	161,05	18038,00		

When Table 5 is analyzed, it can be said that the attitudes of students towards mathematics did not significantly differ according to their cases of having their own rooms or not (U=11710,0; p= ,238 > ,05). When mean rank is considered, it is understood that the attitude scores of students who have their own rooms is higher than students who do not have. The results of the analyses regarding the data collected according to time allocated for studying mathematics are as in the following.

Table 6: Do the attitudes of students towards mathematics differ according to time allocated for studying mathematics?

Time for Studying	N	Mean Rank	sd	X^2	p	Significant Difference
Less than 30 minutes (1)	32	139,61	5	9,762	,082	---
Half an hour (2)	114	159,37				
One hour (3)	112	186,22				
One and a half hour (4)	43	164,73				
Two hours (5)	31	192,24				
More than two hours (6)	9	197,28				

When Table 6 is analyzed, it can be said that the attitudes of students towards mathematics did not significantly differ according to time allocated for studying mathematics ($X^2 = 9{,}762$; p= ,082 > ,05). When mean rank is considered, it is seen that students who allocated more than two hours for studying mathematics have the highest attitude score.

The third sub-problem of the study was determined as *"Do the attitudes of middle school students towards mathematics differ according to whether understanding Mathematics or not, whether to like or dislike mathematics games, whether to have a desire to have a profession related with mathematics in the future or not?"* According to this, the results of the analysis regarding the data collected from the case whether students understand mathematics or not are as in the following.

Table 7: Do the attitudes of the students towards mathematics differ according to their cases of understanding mathematics?

Can you understand mathematics?	N	Mean Rank	sd	X^2	p	Significant Difference
Yes (1)	185	227,25				1-2
No (2)	10	45,45	2	135,579	,000	1-3
A little (3)	146	108,32				2-3

When Table 7 is analyzed, it is seen that the attitudes students towards mathematics differed significantly according to their cases of understanding mathematics ($X^2 = 135{,}579$; p= ,000 < ,05). When mean rank is considered, it is seen that students who answered as I can understand mathematics, have the highest attitude score. As a result of the analyses conducted for learning between which answers there is this significant difference, it is seen that students who stated that they can understand mathematics differed significantly than the students who stated that they cannot understand mathematics and they can understand a little. The results of the analyses regarding the data collected according the cases of students whether they like or dislike playing games about mathematics are as in the following.

Table 8: Do the attitudes of the students towards mathematics differ according to the cases of students whether they like or dislike playing games about mathematics?

Do you like playing games about mathematics?	N	Mean Rank	sd	X^2	p	Significant Difference
Yes (1)	204	199,25				1-2
No (2)	50	103,34	2	47,037	,000	1-3
A little (3)	87	143,64				2-3

When Table 8 is analyzed, it is seen that the attitudes students towards mathematics differed significantly according to the cases of students whether they like or dislike playing games about mathematics ($X^2 = 47{,}037$; p= ,000 < ,05). When mean rank is considered, it is seen that students who answered as I like playing games about mathematics, have the highest attitude score. As a result of the analyses conducted for learning between which answers there is this significant difference, it is seen that students who stated that they like playing games about mathematics differed significantly than the students who stated that they dislike playing games about mathematics and they like playing games about mathematics a little. The results of the analyses regarding the data collected according the cases of students whether they have a desire to have a profession about mathematics in the future or not are as in the following.

Table 9: Do the attitudes of the students towards mathematics differ according to the cases of students whether they have desire to have a profession about mathematics in the future or not?

Do you want to have a profession about mathematics in the future?	N	Mean Rank	sd	X^2	p	Significant Difference
Yes (1)	79	225,85				1-2
No (2)	97	123,42	2	47,135	,000	1-3
Indecisive (3)	167	172,71				2-3

When Table 9 is analyzed, it is seen that the attitudes students towards mathematics differed significantly according to the cases of students whether they have a desire to have a profession about mathematics in the future or not ($X^2 = 47{,}135$; p= ,000 < ,05). When mean rank is considered, it is seen that students who answered as I hope to have a profession about mathematics in the future, have the highest attitude score. As a result of the analyses conducted for learning between which answers there is this significant difference, it is seen that students who stated that they want to have a profession about mathematics in the future differed significantly than the students who do not and who have not decided yet.

CONCLUSION, DISCUSSION AND IMPLICATIONS

In this study, first, it was intended to analyze the attitudes of middle school students towards mathematics according to their achievements in various lessons. In accordance with this purpose, whether there was a significant difference between the attitudes of students towards mathematics according to their achievements in Mathematics, Science and Turkish classes was examined. In conclusion, it was appeared that the attitudes of middle school students towards mathematics differed significantly according to their achievement scores in each three classes. In addition to that it became evident that students who had high scores in mathematics had also high attitude scores

towards mathematics. One of the most important variables which explain the achievement in mathematics is the attitude towards mathematics (Johnson, 2000; Peker & Mirasyedioğlu, 2003). It was concluded in several studies that there is a positive correlation between achievement and attitude (Johnson, 2000; Katrancı, 2009; Tapia & Marsh, 2000). In this sense, it can be said that the result obtained as "students who have high scores in mathematics have also high attitude scores towards mathematics" supports the previously conducted studies. It was appeared that the analyses conducted for the science classes were same as the mathematics. In this sense, it can be said that students who have high scores in science classes have also high attitude scores towards mathematics. When their Turkish achievements were considered, it was seen that students who had low scores in Turkish had higher attitude scores towards mathematics. In this case, it can be said that Turkish scores do not have a significant effect on the attitudes towards mathematics. However, this case is remarkable. For this reason, it is though that it is necessary to focus on this point and make more researches about it.

The other purpose of this study is to determine whether the attitudes of the students towards mathematics differ according to their cases while doing their mathematics homework; such as having his/her own room or not, receiving any helping or not and the time allocated for studying mathematics. In conclusion, it was concluded that the attitudes of middle school students did not differ according to their studying cases. It can be helpful for the students, if families spend more time with their children about mathematics and advice their children that mathematics is necessary in daily life and they will use it in their future lives (Taşdemir, 2008). At this point, it is suggested that families should spend more time with their children for dealing with mathematics. With the help of this, it is though that there can be a difference in their attitudes towards mathematics. Besides, it is suggested to focus and conduct more comprehensive studies on this point, as it is though that the attitudes of families towards mathematics is also important. In this regard, in addition to quantitative studies, it is thought that qualitative studies including the interviews with families and students can be more informative.

The final purpose of the study is to analyze whether the attitudes of middle school students differ according to cases of students whether they understand mathematics or not, whether they like or dislike playing games about mathematics and whether they have a desire to have a profession about mathematics in the future. In conclusion, it became evident that the attitudes of students towards mathematics differed significantly according all these stated variables. In this sense, it was determined that the attitude scores of students who stated that they can understand mathematics were high. Similarly, it was identified that the attitude scores of students who like playing games about mathematics were higher that who dislike playing games about mathematics. At this point, it is thought that mathematical games are important and it is foreseen that there is a need for more comprehensive studies. It is though that conducting both qualitative and quantitative studies focusing at this point is important. Besides, it is thought that mathematics can become more appealing with the help of games. In addition to these results, it became evident that the attitude scores of students who had a desire to have a profession about mathematics in the future were quite higher than the students who did not. In this regard, it is though that developing positive attitudes towards mathematics will increase the chance of students for selecting a profession about mathematics.

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The Art Of The Scales In The Methodology Of Piano Education

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ABSTRACT
The scales are the indispensable methodological approach in piano pedagogy to build Pianists on solid professional basis, as one of the main tools in Piano Teaching of beginners and advanced learners, as simplified pattern, unlike the complicated structure of other type instructive materials, as Etudes. The Scales are tested and useful means in the practice of Teachers and Concert Performers. Scales develop skills, height-timbre listening, prevent staging weaknesses and problems. Our objectives are to change the stereotype of monotony in their routine handling: from synonymous of grueling exercises to become a pleasant activity as an integral part of the Music Art.

INTRODUCTION
The scales are an indispensable methodological approach in piano pedagogy. As a graduate of the Bulgarian piano school system, I defend its principles on building solid pianism on a professional basis, where the gamma is also one of the main tools in learning piano for beginners and advanced. Therefore in the short bibliography here I refer mainly to Bulgarian sources.

Our wish is to change the stereotype of monotony in the routine old fashion of practicing scales. From a synonym of annoying obligatory exercises to turn them into a pleasant activity a physical-mental fitness. To gain the reputation of a strong pedagogical and practical guidance in the Piano art. As a contrast to the mechanical learning and performance, scales should acquire the character of an interesting game, developing the imagination of the playing student by “multi-task” variety.

This article is designed for a wide spectrum of piano players, but mainly in contribution to the education of the piano students of Assumption University’s School of Music.

OBJECTIVES
The education by scales must efficiently set and develop basic pianist skills and pitch-timbre listening and hearing. In addition of disciplines the Ear-Training and the Music Theory it is an input to the Musicality. To serve as a prevention of the main and most common staging weaknesses and problems. To be perceived as MUSIC. One musical performance of scale, even in tempo moderato, should be evaluated higher than the fast but insignificant dash through the keys. To prove that pianism is achievable. To recognize the body, through its options and resources, as a musical instrument, even a whole orchestra. To develop joint flexibility of, especially at the wrist, as a main transmission, as well as the articulation. To solve the problem of finger uniformity. To contribute to the overall piano and artistic growth by helping the learner acquire the experiences, which are needed. To train a sense of preciseness and perfection, style, character, quality of sound, touch, dynamics, phrasing, tempo, pedaling technique. To overcome the fear of the stage and to develop musical memory in its basic manifestations, first acoustical, then visual, motional and tactile. When proficiency in scales is reached it releases the resources for improvisation. It gives an accurate criteria for proper piano playing - whether an amateur or a professional.

The scales should be comprehended as tone substance, built in by its components in the musical architecture. Exactly it could be used appropriately as a kind of "compendium of advice" to the young artist, defining the parameters of piano mastery, where the sharpening of fundamental piano techniques, maneuvers and postulates-is "*condicio sine qua non*", such as: the right setting, position and seat, as well as fingering, articulation, strokes, embellishments, metro-rhythmic changes. Our desire is to address our views to a wide range of young people and to introduce them as an easy aid with regard to the behavior in front of the keyboard. Our objectives are to develop basic pianist skills and abilities, by achieving the convergence (familiarization) with keyboard so that we could fit and feel its texture, thus obtaining complete symbiosis with the instrument.

METHODOLOGY
The scales are a tested and useful mean in the practice of both educators and concert artists. The issues here are studied in more detail as the topic of our work in progress "On the holistic Nature of the Motion in Pianism", about the unity between idea and action by the movement which unites them. It is a holistic method that is set as a fundamental scientific policy of Assumption University of Thailand, together with the cognitive and interdisciplinary approach that we follow in our teaching-learning process. For illustration we use examples and analogies from other areas of knowledge and reality, handling accessible and clear language. To avoid tautology, here we utilize different terms for the notion “scales”, depending on the context and frequency of use. The gamut

is irreplaceable in the piano education because of its simple schematic structure, unlike complicated passage combinations of other types of instructional material such as etudes. By emancipating the text, the attention could be fully focused on the music without any distraction. In perspective it helps establish the habit of not only performing by memory, but of working by memory, which is decisive for stage selfconfidence. The format and volume of the studied body varies in accordance to the conditions and specific needs. The piano lesson must lay the foundation of basic professionalism, a guarantee for a successful and enjoyable future career and that is where the scales come to aid. The entire scales cycle referred to here is described in video-record. Demonstrations from the instructor are desirable, illustrated by live excerpts from Piano Literature.

DESCRIPTION

Based on traditional standards in the scales instruction, here the author makes presentation of an original system, conceived as an attempt to contribute to the optimization by new inventions of the teaching-learning process over such a vast and challenging matter such as best piano play.

This scales exercises selection contains specific ingredients, integrated in the musical design, which makes it universally applicable. The purpose is to clarify the content of our subject, to explain what we mean under the notion “scales”, to show how exactly to put them to practice, extracting maximum benefit from all derivatives found there.

ANALYSIS

The scales are the perfect way and inexhaustible creative resource, containing all basic design units and materials of the musical tissue and phrase. As a basic tool it operates with accurate values, making it generally accessible. The stress on the gammas, "sharpened" in all tonalities, divided in three blocks - linear, chord-arpeggios and octave, supplemented with double notes, combined with four-notes motives as rhythmic patterns, such as: the five examples groups where tone durations presented by eighth and sixteen notes alternate in a different sequence: fast and slow, in duplets and triplets, dotted, are extremely useful for the consolidation of all possible finger links and line configurations, for development of articulation and the ability to relax on the keyboard. We apply different modules, modified according to the needs and levels, ranging from exercises for five fingers, within one, two, four and more octaves, to covering the whole timbredynamic diapason of the instrument. In consonantal intervals - tierce, tenths, sixths, diatonic and chromatic series, in parallel and opposite movement. The chords to work in rout position and their inversions.

This is how lasting results in terms of excellent play, a sense of "temperament" and "choreography" of the movement and "graph" of the passages are achieved. According to F. Busoni "The supreme technique is concentrated in the mind, it is composed of geometry, calculation of distances and wise order" - "Technical phrasing." According to Shushulova-Pavlova (2007) and Stoyanov (1954): "The theoretical heritage of Andrei Stoyanov. Sources, aspects, projections", p. 34-35) - and from there – for acquiring a sense of position and symmetry, dimension orientation, control of the apparatus and the whole body, mastering the basic "matrix" of the musical "speech".

Such as the harmonic functions of the music and the main means of expression of music language-the tonalities and modulations-these "highways"–the tonal "dramaturgy" – in their mode- and coloristic spectrum. After a course, overlapping the 24 keys of "Well-Tempered Clavier"-the contemporary Piano, the pianist will have possessed the necessary set of options allowing him to master each texture and gain awareness about fingering, which streamlines the learning process.
One perfectly performed scale in all its components and varieties is a real challenge and in fact the highest form of pianism.

In the timing of lessons of 60 min., the optimum time, of which scales occupy approximately is a one-fifth part, about 10 minutes. In combination with technical exercises as CL Hannon or Andrey Stoyanov, and keystone etudes by Czerny, Clementi, Moshkovski and other authors, and subsequently the high-art ones by Chopin, Liszt, Debussy, (whose etudes are titled according to the relevant type, corresponding to the panorama we show in the scales) Scriabin, Rachmaninoff, Stravinski – about 15 more minutes, in all-it consists one third of the teaching time (Al-Bakri, 1998).

As mentioned above, we work scales in three blocks, divided into several segments: Linear outline, Chords-Arpeggios and Octave-cascade. Each block addresses different situations through specific samples.

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The first block task is to achieve uniformity in line. The vertical ones–chords-arpeggio and octaves are to consolidate the structure and homogeneity in a certain architectonic proportionality and voice balance of melody, harmony and the harmonious filling, simultaneous finger action, breaking monolithic chord in constituent elements with attention to consonantal tones that mark and fulfill the overtone range.

All that is set here covers almost the whole perimeter of the phenomena in the pianistic practice. A vision around our working "territory" provides a sensation of perspective and control. We use primarily major natural and minor harmonic gamut as basic working modes, with harmonic complexes and their modifications. Fundamental metric algorithms and formulas are learned and reinforced in the mind, as melodic and harmonic molds, which configure and stimulate coordinate cogitation. That is the way the foundation of the music memory is laid. Cognitive relation to the basic parameters of instrumentalism are built, such as fingering, articulation, strokes and touches in total amplitude – from *legatissimo* to *pizzicato*, dosed heaviness, dynamic gradations–sound throughout the entire audio range, metro-rhythm (Popdimitrov, 1977), pedaling usage.

Fingers and legs are analogues regarding positions, situations and roles in any type of motions, respectively running, kicking, dancing, walking, plus to caress, to whisper, sing and tell-by the palm and fingertips. Playing with active, high but rounded fingers – developing the metacarpal, which is a reciprocal of the hip. Just like the knee, the joint between the first and second phalanx is the only one that should not cave inward. The dynamic nuances are achieved by shading of gravity, as in calligraphy, painting with ink or pencil thin and thick lines. That happens through movement – up – down, both bow instruments, with pressure or lightness we sculpt motifs and phrases.

Hence, also in the chords, by 10 or less fingers simultaneously in their compactness and concurrency, we have cases of a combination of tones that are being pushed down others which are pulled upwards, as two major skills. We can cover the great dynamical amplitude, while we deduct the main acoustic shaping features to two basic strokes: slurlegato and separately-staccato with their modifications – *legatissimo*, *non-legato*, *portato*, *staccatisimo* and *pizzicato*, because, after all, that is what is used everywhere in music scores. The important here is that their cultivation is achieved primarily through legato, because it is the idea of mental connection implicit in the musical idea, and thus the particular touch and speed will be obtained on a durable basis. Appropriate here is not the "forceful" approach but the "judo" – "the way of softness" and smooth stretching. So the scales make us fit for work with any type of texture and keyboard, regarding the correlation between articulations with metro-rhythmical pulsation. One can feel the responsiveness of the instrument treated properly, such as recoil and vibrato.

By working on scales we create and observe the measure ratio of whole and semi-tone division. Alternating different methods and techniques provides vital diversity that gives breath, rest for the hand and body relaxation which is much needed. Steady perceptions and habits are shaped, similar to those of natural instruments for position fixing, so they must become aware automatisms.

The structure of the palm as a roof or an arch is consolidated, through sustainable and rounded fingers. They are a kind of energetic cables, providing the contact, the full solder and adhesion to the clavier. That is exactly why the fingers need to be kept in standby mode by rounded profile, which provides energy conservation through internal circulation and prevents its leakage out. Conscious attitude to fingering is cultivated, as on the canvas of the gamma samples are manufactured other make that apply to a particular type of performance. There is a paradox: Ergo, mastering given models, we abstract from clichés when working with the piano literature.

The other paradox is: the slower we work, the faster we can play. We do not spare the use of certain fingers, and we are able, after having drilled all possible configurations and items to select the optimal for the particular case. Arpeggios, depending on the sound registry can be used with other finger ties for our convenience because of the body's different posture.

Exactly that certainty helps us ad hoc calibrate finger combinations in various style methods. One is the suitable approach to express Beethoven, another might be better for Debussy or Liszt, or totally different in a concrete case. The most comfortable gamut, according to Chopin is B major, because of its valves and relief fitting as a "glove" physiologically on the grip of the hand and palm, and, behold- the most difficult for the same reason, is considered C major, due to the disparity between flat white keys plane, and anatomical differential and discrepancies between individual fingers. It is extremely important to raise awareness of the role of 4th and 5th finger of both hands, as the crucial pillars, because they carry the heaviest burden, i.e. frame structure.

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The melody and the harmony are forming an arch by the mean of soft thumb as pair. If they are ignored, as it is common, since they are handled more difficultly as the shortest and weakest ones, and the load is carried by the first three fingers instead of being separated evenly, the music tissue loses its logic and orchestration. We sharpen the connections between 1st, 2nd, 3rd, 4th, 5th finger, etc. and combinations thereof, for example, 3rd-5th or 4th-2nd in chords. We achieve uniformity of touching by all fingers as their individualization is subject to the "sound-creative will" (Martinsen). We are also working on voiceless shift, awareness of which finger holds central position. Normally it is the 3rd finger as a center of palm symmetry, but as milestones can serve 1st, 5th and 2nd, and in rare cases, the 4th. We transfer the weight between them, by the transmission through wrist, elbow and shoulder on the binary principle – alternating tension and relaxation, leaning on the keyboard, landing on it. To feel the "topography" of the keyboard and the impact of the leverage – which spot of the key is most favorable to the touch, helping the play. For example, the white keys can be touched as close to the end of the piano as possible, for less resistance.

The concordance of left and right hands and parts is crucial. A reflex arc is built, based on conscious automatism, which is what gives the feeling of freedom and understanding of the mechanisms of playing, respecting the principle of a specific key for each finger and adaptation to the relief of the keyboard. Applying the rotation through the wrist tremolo-and elbow, turning the complexes of the whole body. Helping the short and weak fingers by shortening their way to the keyboard is mainly through the flexible wrist as chief-distributor and movements dispatcher, by adjusting the optimal trajectory, taking the best location. The wrist always centers the position. It helps shorten the path to the key. Also those carried by shoulders and elbows-are techniques and positions skills that facilitate the pressure on mechanics.

Therefore, Liszt says "Flexibility above all". This famous dictum reveals brilliantly the pianistic philosophy of the genius. Again Liszt speaks about music and non-music fingers, having in mind the appropriate application of the characteristics of each finger for functional sound production. On this occasion Liszt said with good-natured irony: "Ah, those velvet paws." The sense is-that there is no good or bad tone, and only appropriate or inappropriate as means of recreating a musical idea, as the Answer of the fundamental Questions: What and How.

The scales deal with practical models, creating algorithms. In order to develop a sense of symmetry, in both parallel and opposite movement is also practiced, the second one through the convenience of finger matches with both hands in most cases, beside the exceptions. Note that, unlike the double use of all other fingers within the octave, the fourth is found only once in this interval series and it is its spot that should be remembered.

In chord complexes must be avoided using only the 3rd finger, as the internal, and the fourth must be included, depending on the intervals, thus creating a sense of distance and space. In certain cases, as large spread, for ease, even to take two keys at once by thumb. The fingers should be treated equally, and applied in music according to their features and role in the context of its phrasing and style normatives. When learning route position, compact and broken chords, arpeggios and cadences we include the legs by using the three pedals, similar to the pedal keyboard prehension, with special attention to the most ignored, but extremely productive Grand Piano's "sostenuto" middle pedal. Which concludes and earth (floor) in the chain body-musculoskeletal system-instrument and closes the power circuit.

When performing chords we seek after chorale sonority, synchronization and balance, proportion, macro-frame. In general, we seek reciprocity, reactivity, resulting in coordinating the actions of the two halves of the body of the player. Understanding the cadences as formulas reflecting the phases through which the music matter passes in a coordinate plan, horizontally and vertically, melodically and harmonically, is crucial in the musical logic. In the contact with the keyboard impact must be full and deepest in touch, reaching to the core of the key and feeling the mutual reaction. Thus the tone is not shallow and superficial, but rich in timbre diversity, implementing the necessary grip with the keyboard, generating vibration and overtones.

As for the octaves we must be able to reveal the diversity of their feature potential like walking, crawling and jumping motion sequences. Within the octave block we work in legato, "scrolling" and handle more finger pairs. Not only 1st-5th, but also combinations 1st – 4th, even 1st – 3rd crossing over one another, especially useful for silent shift – a transfer of a finger on the same key and replacing it with another in ligature. To overcome the fear of the black keys and to also remove inhibitions using other finger combinations, except 1st-5th, for example, 1st-4th and even 1st-3rd in legato or chromatic. The trend avoiding the fifth finger, which is considered weak and short, must be overcome, because it is actually a very strong finger, similar to a hook, which is a dangerous weapon in the Martial Arts. It is valid for glissando, leaps, etc. Not to segregate, but to stimulate so called weak fingers taking into account their nature and specificity in order to use the most of their options. Same as regarding the

massive and inert 3rd, appearing actually, the axis of symmetry of the hand, as well to avoid the sharpness, produced by the index, unless our target is namely such.

We straighten the fingers only at the time of release of tension after another phrase. To seek support in the keyboard, concluding the chain land-instrument-performer. To play with the participation of the entire body, not just with isolated finger movements, as a rule, in addition to other specific dramatic purpose. By harmonizing motional and respiratory functions through the scales we consolidate symbiosis "performer-instrument". We must develop and strengthen our psychophysical conditioning in order to be able to react instantly and to move smoothly from one state to another. To stress on the consciousness to control thoroughly, simultaneously and consecutively-the outline of the musical events, anticipating the next moves. To be remodel the location and to coordinate the phases of both hand and sense and seize the moment of inertia. To cultivate a sense of position and to move exactly where you have to be located, in the shortest distance and precise angle, and to be standing exactly vertical to the area before to touch it.

So, to be able, in the words of Mozart, at a certain time, with a certain finger, in a certain way to press the correct key. At the same time, to merge with the horizon, up to the plane of the keyboard in order of ergonomics for maximum savings of time, space and effort. Virtuoso is one who has overcome physical obstacles and works in spiritual dimensions. And exactly scales are a unique option for rapid adaptation to an unfamiliar instrument. It is enough to play one scale to finger the keyboard, to understand its consistency and then we already “feel” it. We target to acquire a sense of position upon the key. To use "hinge" movement around the sound lines suggesting flexing all joints and connections, balanced and coordinated also by the waist, as ability to redirect, transfer, relocate the weight between the thighs and take a seat upon the center of gravity, as reference datum, which separates the two halves of the Piano. This involves the integral body construction to participate in playing, at comprehension of the impact of centrifugal and centripetal forces and their associated vectors. The scales are a wonderful exercise to streamline our creative process as a shortcut, to reach what is called technique. Actually, “technic” is τεχνολογία in Greek, and “τεχνητής” is related to the Latin “Art”: Here lies the immanent correlation between objectives and means. In our work we use our main resources, mass and acceleration, especially in building dynamics and phrasing.

So we draw the advantage from both of the main streams in the pianism:-“the finger”- and “body-weight”-doctrines. We must perceive the body as a physical object, as a technological tool, through knowledge of the physical laws, applying the formulas F = M x A of mass and energy, and P = F: S-push-area-pressure. It should be noted that a lower mass, and higher acceleration, as functions in the equations, generate more power (Dyankov and Nonchev, 1999). To uphold good condition we can master ourselves in a Yogic similar way, to communicate with our body, understand our body language. Analyzing every movement, its appropriateness and outcome helps to achieve dialogue between ourselves and the instrument, by the scales. To consider the nature of speech-motor system, led by one single brain center, the sharp finger articulation, in parallel with oral pronunciation of the tones contributes as an exercise for the clarity of implementation. To develop a sense of rhythm we have included metro rhythmic complexes on four-tone motifs. We must strengthen the monitoring and attention to the left hand, while focusing specifically on it. We control the slope of the hands and their distance from the keyboard.

In the scales series we perform tempo’s, dynamical, and line manipulation, through crescendo-diminuendo from p-mf-to f (as Hans von Bülow’s sentence:"Crescendo means piano, diminuendo means forte"), alternating strokes like *portato-nonlegato-staccato-pizzicato* in *accelerando-ritardando*. Especially, we use this approach in the exercise, called “Zoo” when working with young children-by using image comparisons, for example from bionics, through simulating the manners of some animals: the heavy elephant, clumsy panda, pecking hen, agile sparrow, light wings butterfly, bumbling beetle, and actions such as crawling, slipping (from black to white key, mute switching), jumping, pinching. Here we show the extremely productive “springy” moment, discharging the apparatus and starting the new momentum. Hands of different size and physiology adapt through the scales exercises by observing the degrees of supplying, flexible stretching; succeed to maintain a radial-fantail collocation of the fingers respect the palm (Ilievska, 1978).

Scales exercises provide the basic building material, the matrix – the bricks, the panels, to the "reinforced concrete"-in their unity, incorporated in the structure. Through the precise technique and the organic seal with the piano as with living flesh, connection with the strings we obtain “vibrato” effect, the recoil from the bottom of the keyboard and the advantage of its retroactive effect, generating new momentum. This is a general rule and requirement, creating and storing energy. Becoming aware and sculpting every movement relevant to the specific musical intention in general conceptual context.

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Handling all tonalities develops a sense of enharmonic preferences in the sound-image perceptions. We learn to hear the voice of the key inscribed in the picture of the modulation system. We step in the tonal dramaturgy; track the "highways" in music, its "road map". The tonalities and the modulations, as bridges between them, are an analogue of the transport system and infrastructure. The fundamental discovery – the "Hammer-Klavier" mechanism, invented in the XVIII century, a contemporary of the scientific revolution as a fruit of the genius of the Enlightenment, guaranteed equal treatment of all 24 "well" tempered tonalities, in fact produced a revolution in the music utterance and expression, as well. That can be learned exactly through the scales practices. They are the code to understanding this language, being, by definition, the tones of the tonality, arranged in height. Each tonality has a different texture -profile, phrasing outline, timbre, tone-color– brighter or more pastel, more articulated or mellow subdued. This implies a different treatment, touch and dynamic plan. Composers do not use randomly a certain tonality and modulations, but in a strictly presumed and well-defined scheme and order. That is what gives us the code to their musical scenario and intentions. This helps the pianist to orient himself in the recesses of the musical fabric, and it can be trained through the scales. In this way a clear view is created, as a form of control, orientation in the matter. For whoever is familiar with the gammas and tonality, the music is like a well arranged natural and "urban" environment.

The density of the required technological skills provides the desired intensity and initiative that makes our work purposeful and ultimately-optimal, as with minimum, economized efforts and time we “capitalize”, opposing the ineffective, even counterproductive extensiveness. *Repetitio est mater studiorum* – but this presumes a reasonable number of one-two-or triple to five replications. The scales detect "diagnoses", but also prevent, treat and rehabilitate the possible stanceinstrumental discomforts as kind of a “clinic” and a “pharmacy”, even “panacea” for pianist "disabilities". It is an irreplaceable and indispensable praxis immediately before the stage performance to enter the needed preparedness and to gather the thoughts, to adapt and accommodate to an unknown instrument, atmosphere and acoustics in the hall.

Focusing entire scales exercises we train the basic physical parameters that represent our natural and mental resources. In this way we realize every touch in order to integrate it appropriately in musical style and intention. As said before, they are used to build a clear idea, as alphabet to form the basic musical and pianistic literacy. Scales cultivate physical culture; control ever the body, spatial coordination, symmetry, reciprocity between the left and right side, coincidence of the phases. They educate a multivariate thinking, as the range of tools and concepts can be seen in the context of grammar with its phonetics, syntax, corresponding to the tonal semantics, also in terms of physiology and anatomy, and inspection of the applications of the various parts of the human body. In the context of scientific understanding, the scales could be considered as background, the multiplication table, or even in a higher order, the Periodic table, which handles all the basic elements that make up the musical tissue, which represent the entire arsenal and supply of means of expression, with which the intellect operates.

The draw of parabolic “microwaves”, inscribed in the oval contour of the phrase in each octave as the basic building motif, compliance and coverage through harmonic progressions, on the principle of the “golden section”, form the musical reflection that overpasses the cliché of postulates. Like the one that always and necessarily a first time in metro-rhythmic organization should be considered a strong beat. (Statistically it is even vice versa, since there is often Ground Zero, where the previous cadence phase is exhausted and the new momentum is coming, in causal connection). Thus, we receive naturalness of expression, as in vocal prosody and speech. Following the example of players from the string section that sharpen the fingerboard to the point of extent organic integration with the instrument and fixing positions, so we must approach and take this model. Forming skills through the sound massive and tonal complexes psychophysical attitudes are constructed; thereby not only bodily, but acoustically and visually, the keyboard comes alive in our ideas before being touched.

What is left is only their incorporation into living tissue and their specific application in the work, which is namely the manifestation of the technique, mastership, art. Interdisciplinary analogies here are interesting and useful. For instance, bionics aspects develop the imagination; examples of aerodynamics show us how to master the control's surfaces, etc.

We serve with techniques and practices of martial arts and other sports, ballet and dance, like springing, twisting, clusters, similar to swoops like *tremolo*, *martellato*, “tangent”, spirals and others. Al these movements are implemented in the vision of our scales instructive”“menu” we offer– with intention to be relevant, fitting completely as pebbles inlaid in live music mosaic. In psychological and cognitive plan all this enhances memory because memorizing actually is the relationship between musical perception and analysis. To think synoptically and architectonically, realizing coordinate principle, inherent Piano, is essential. "Engineering" thought applied here postulates solidity and equilibrium of the structure-such a understanding should be cultivated. Fingers sculpt

the shape that best manages the energy, and thereafter we can have any kind of sound-producing and sound emission, we wish, on this basis. Weight distribution draws the dynamical plan, the criteria for speed, the tempo, considering it as a parameter only, not an end in itself, in terms of musical dramaturgy, that suggests sense of proportion and good taste. Thus the gamut presents and classifies the main categories, approaches and ideas in piano playing in a consistent and popular system that has served us for paradigm. Simplified for beginners yet quite sophisticated for advances pianists. The crucial factor here is giving the scales exercises a modern meaning and contents. With unmatched modesty of genius Bach did the opposite, using the title "Piano Exercises" for his unique works.

By the scales to organize well our desktop-the piano keyboard- as working place to be kept arranged, positioned, centered, calibrated-by means of the scales. The sit in front of the instrument should be felt as comfortable and cozy for both body and mind. The awkwardness regarding alteration is eliminated by the ideas of colorful listening and the ratio of black and white keys visualization. Contribute to the consolidation of the internal relations between the elements that combine the units to form the mental chain of passages, in the fusion with suitable motion. The improvement of the basic musical cores in a specific sequence determines the correlation between resources and content in the musical composition. The whole range of technological phenomena focus in scales mastery and reflected in ability.

Flexibility, reactivity, adaptability, conditional reflexes, cohesion are being build – through fitness, systematically maintained with certain regularity. Sharpening the entire diapason gives the sense of orchestral timbre – here to be remembered one more famous definition of all the time best Pianist Franz Liszt: Piano is not one, but one hundred instruments. Projecting the dynamic design; educates integral thinking in broad strokes, wide scope and amplitude, but also in detail. Develops stereophonic thinking, in categories of “time-space continuum” - that represents namely the real nature of the piano, which makes it unique and beyond comparison - “*primus inter parem*” - in its identity with respect to other instruments and the human voice. The main skillfulness refined by education via the scales: of economy, efficiency, adjustment of the relief on the keyboard, awareness of temperament not only tactile, but also acoustically makes it a great advantage.
Key concepts here are: balance, control.

RECOMMENDATIONS

About individual homework timing should be dosed, but should also be systematic. The accumulation of the load is to be according personal condition, the time available and the extent of the advancement. In the practice of a “concert career” pianist whole set coverage fits in 10-15 minutes. One full course with the 24 tonalities could be repeated periodically. Methodical and practical recommendations on the duration of sessions with scales exercises – vary between 10-15 minutes daily, but provided that the work is conscious and with full concentration, initiative and rational use of time.

Labor and general hygiene should be respected mandatory. Nails must be aligned with the plane of the keyboard to lean on the ball of the fingers. Clipping them provides direct access of the fingers to the keyboard and has no alternative as a sign of a serious attitude towards work and professionalism. The quotidian stereotype must be observed, alternating work and rest, with measures against fatigue and possible diseases of the musculoskeletal (tendinitis). Proper staging would prevent the hand from being worn out and diseases (Kurteva, 2006). What course of exercise is to be selected depends on the level and needs of the performer. We recommend working tempo from slow to fast, with articulation through highly raised fingers for flexible joints and swing, the correct posture relative to the instrument, with attention to setting, touches and liberation.

CONCLUSION

The scales exercises educate and build habits, associations and attitudes, contribute to the consolidation of willpower and character of the students and strengthen self-discipline and stage behavior. In this sense, the scales appear as a kit, a storage of raw-materials and equipment, a musical bank treasure, a synthesis of knowledge and skills, and constitutes itself school. We are led by pragmatics and the motto " by reasonable time and effort -to highest accomplishments” - to optimize and streamline the creative process to the maximum extent. Not quantity only, but quality, obtained by systematic work. It provides the technology, the background, the know-how, logistics for a good music management (Ivanova, 2009).

Playing scales is a well-working method with proven positive results, with a direct impact on our physiology and conditions, which we can change at will and desire. For instance, is possible even to enlarge the dimension of the hand by soft stretching, developing flexibility of the joints. Practicing scales teaches good habits and physical endurance, virtuosity. Creates confidence and hence self-esteem. In this way the scales training is a vault of the

whole arsenal of means of expression, as a product of pianistic and pedagogical experience, endeavor and explore, tested jointly by students and teacher in their own Piano-Class Lab.

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The Aspects Of Food In The Rites Of Passage In Turkish Culture

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ABSTRACT
No matter who we are or where we live, our lives revolve around food, which is much more than a merely sustenance. As a part of the human culture, food carries complex significance and symbolic meanings.
Turkish people attribute great value to food and its usage specifically tied to rites of passage of human life. Traditions, especially the ones practiced during rites of passage, such as birth, circumcisions, weddings and funerals, have always been accompanied by food in Turkish culture. Since food celebrates and symbolizes human progress in life in the culture, it also surrounds by aspects of belief, custom, magic, ritual and religion and has always been used in ceremonial context during such rites. Even though that context may be different depending on the religious, economic and social nuances of the various Turkish regions, like wheat, meat and bread, certain kinds of food play key roles during Turkish rites, generally upholding traditions. This paper highlights the place of food in the rites of passage in Turkish culture.

Key words: food, culture, rites of passage, ceremony.

INTRODUCTION

Food is an indispensable component of everyday life. It carries complex significance and symbolic meanings since it is part of a culture. Moreover, it is vital for both the biological aspect of a human organism as well as the making and maintenance of social relations: "*Any given human individual is constructed, biologically, psychologically and socially by the food he/she chooses to incorporate*" (Fischler 1988: 937-953).

Recently, there has been a growing cross-disciplinary interest in food and all of its aspects, specifically within the so-called social sciences. Food habits, processes, preparations, rituals and customs are just some of the topics academically discussed in a number of ways. Anthropologists, for example, tend to view food practices as one element of customs that make up a culture. On the other hand, nutritionists are mostly concerned with the impact of rituals and ceremonies on health. They focus on health effects ignoring the cultural values of food. Those two approaches provide one with fruitful research within an emerging discipline known as nutritional anthropology. In other words, nutritional anthropology is concerned with the relationship between nutrition and culture as well as their interaction (Fieldhouse 1991: 17). However, it should also be pointed that food culture goes beyond the boundaries of nutritional anthropology. It is an important research area that invites the curious eyes of historians, folklorists, sociologists and geographers, among others. Foodways has also become a focal point as well as a fine example for one to understand cultural and historical values inextricably intertwined within a society. Especially at different social gatherings, such as ceremonies, celebrations and rituals, food displays the importance of culture in every society.

Moreover, food in ritual context is also has been studied by scholars, specifically by anthropologists, sociologist and religious scholars. The earliest studies about food and its ceremonial context concentrated mostly on tribal societies. Those studies were conducted by cultural anthropologists at the beginning of the nineteenth century. They primarily focused on the significance of food in primitive rituals. To provide you with an example, in his 1964 book *The Raw and the Cooked*, anthropologist French Lévi-Strauss explored natural and cultural relationships on a culinary level. Furthermore, he maintained that culinary rites are not inborn but rather acquired phenomena (Lévi-Strauss, 1975: 586-595). Moreover, in the early twentieth century, Freud investigated the psychosexual aspects of consumption. Advocates of the structuralism tradition, such as Claude Lévi-Strauss and Douglas, have successfully shown how food is used to classify different phenomena, thereby creating a common worldview among people who share a culinary culture. Bronislaw Malinowski, the founder of functionalism, coined the basic strand of functionalism opposing the evolutions and historical particularism. Malinowski used the term "needs functionalism", believing that "humans had set of universal biological needs, and that customs developed to fulfill those needs" (Conrad 2011: 65). His form of functionalism focused on the individual, satisfying the basic seven needs of humans which include nutrition, reproduction, bodily comforts, safety, movement, health and growth (Moore 2009: 141).

Furthermore, scholars in the disciplines of anthropology and sociology viewed ceremonies and rites of passage as a way to examine a culture. Emile Durkheim, the founder of classical social science and religious theories, claimed that a ceremony is approving events in a society. Just like Durkheim, an expert on religion and ritual, Arnold van Gennep, who made the most devastating critique to Durkheim's views, innovated the term "rites of passage", in

his work *Les rites de passage*, "Rites of Passage" in 1960. Arnold van Gennep plainly stated that Durkheim's opinions of primitive cultures were "entire erroneous". He claimed that passage in social groups requires a ceremony, or ritual hence rite of passage. Later, some other scholars, such as Geertz, Turner and Rappopart, worked on ritual and ceremonies without mentioning the role of food at their studies.

Turkish folklore scholarship has not focused on food from a folkloric perspective since no books on traditional Turkish food culture and its role in the rite of passsages have been produced yet. The book, for instance, *Yemek Kitabı (Food Book)*, deals with how the old Turkish sources provide us with concrete information on the Turkish food tradition, such as *Divan-ü Lügati't –Türk* and *Kutadgu Bilig*, which are considered very important works in terms of Turkish cultural history. They also focus on food and its relationships with folklore, history and literature (Koz, 2002). However, there are abundant incomprehensive studies in that field which focus on food culture of a particular cuisine, ingredients and aspects of food production, as well as preparation and consumption of specific foods. Ethnological perspectives on the role of food in human life illuminate different aspects of food, such as culture, relations, identity and power.

As it is true for all human beings all over the world, the entire life-cycle of a person, from birth to death, is marked by a series of rites of passage. This paper is primarily concerned with a specific food and its importance in the rites of passage within Turkish society. Since the role of food, particularly in the rites of passage is still overlooked, this study aims to highlight the significance of food during the rites of passage. By focusing on specific food and rites of passage, this paper also aims to make some contributions to studies on food and culture in general.

The Characteristics of the Turkish Food

Turkish food culture was established during the Nomadic period and the first settled Turkish States of Asia, called Anatolia. In that period meat, dairy, vegetables and grains characterized the core of Turkish food culture. The typical food used in that period was of course wheat which was cultivated and used liberally in several types of leavened and unleavened breads baked in clay ovens, on the griddle, or buried in ember. The use of layered dough is rooted in the nomadic character of early Central Asian Turk. Dough based specialties an integral part of traditional Turkish food culture. Skewering meat as well as other ways of grilling varieties of *kebap* and dairy products, such as cheeses and yogurt, had been convenient and staple foods of the pastoral Turks. Sheep breeding was one of the most important forms of farm life for the Turks.

Another aspect of food is related to its ingredients, mainly sheep meat and onion. The other aspect is the cooking style: Coal fire. The utensil used the copper stewpot (Anger 1994:78). Turkish food gets its sources from rich vegetables, variety of herbs as well. The typical and traditional Turkish beverages are tea, coffee and *ayran*, namely a popular yogurt drink. Tea is the main source of caffeine for Turkish people and an essential part of a working day. It is prepared in a special way, by brewing it over boiling water and served in delicate, small clear glasses to show the deep red color and to keep it hot.[3]

The Food in the Rites of Passage in Turkish Culture

Food functions as a way to give structure to daily life and to ritualistically mark the passages from one formal life stage or informal life stage to another. Like in every culture, there are certain kinds of food consumed in the rites of passage that are pervasively performed within the Turkish culture.

As in the rest of the world, the first passage of birth, is almost always considered as the happiest event. It is believed that birth increases strenght in Turkish society. It also makes people safer and powerful at their communities. Since it is a happy event, birth has to be celebrated accompanied by a rich, sweet pastry, the so-called *baklava*. İn fact, except the dead ritual, *baklava* is the most social and ritual dessert in Turkey because it is served almost all ceremonial events, such as births and weddings. *Baklava* is made to share with the guests who attend the ceremonies. There are many variations of *baklava* in terms of ingredients, sizes, flavors and shapes. The most popular *baklava* is made of flaky layers of dough filled with pistachios or walnuts, stacked and brushed with butter and sugar syrup cut into rectangles or diamonds. Although many ethnic groups with ancestry going back to the Middle East claim the origin of this luscious pastry, there is no solid historical evidence (--though it is strongly supported that it stems from Central Asian Turkish tribes). Besides, in Turkey, the *baklava* recipe known and used today, was probably developed in the kitchens of the *Topkapı Palace*. Indeed, the sultan presented trays of *baklava*

[3] There are many studies done about Turkish food culture in general. For example, the study by Bahaeddin Ögel *Türk Mutfağının Gelişmesi ve Türk Tarihi Gelenekleri* and another study by Mehmet Eröz "*Türk Yemek Adetleri*" give information about Turkish food culture.

to the Janissaries every 15th day of the Ramadan, a time of fasting for Muslims all over the world, in a ceremonial procession called the *Baklava Alayı*.

After the rite of birth, there is a teething ceremony, namely when a child gets his first teeth. The main food in this ceremony is boiled wheat. Both the food and the ceremony are commonly named similarly: *diş buğdayı* or *diş hediği*. In Turkish, *diş* is tooth and wheat is *buğday*. *Hedik* refers to a traditionally cooked wheat dish eaten on this specific occasion. Boiled and pounded wheat is called *bulgur* in Turkish, another common name for this tradition. *Bulgur* plays an important role in the Turkish cuisine. It has a higher nutritional value because *bulgur* is considered an ideal grain in a vegetarian diet too. *Bulgur* is the first food produced after wheat is processed. Wheat is boiled so as to taste a bit softer than *bulgur*. The ceremony "tooth wheat" celebrates the appearance of the baby's first tooth. It is believed that, if the ceremony is not held, the baby will have tough teething (Saritas 2011: 122). The anonymous, following lines symbolize the frustration of teething for the baby and the importance of wheat:

> *"If my mother sells my bed, she would make the wheat; I would then get my teeth easily. If my mother does not make the wheat for me, she should keep my coffin ready."*

The passage of circumcision is another important rite of passage in Turkish culture. In fact, circumcision and the completion of military service are two major events throughout a Turkish boy's life. Circumcision is considered as the first step on the ritual path to becoming a man. It is the strictest and the most widespread practice among religious and ritual procedures, even though both festivities and food vary according to region and ethnic origin. Since it is also a showing off to a society, there are certain kinds of food served throughout the ceremony. The main food is called *keşkek,* a traditional Turkish dish served at major ceremonies, such as weddings, funerals and some religious celebrations all over Turkey. *Keşkek* is made of wheat and meat and it requires a long process for both women and men. After being cooked in huge cauldrons, it is served to the guests. People participate by selecting the wheat in order to be blessed as well as by praying and carrying the wheat prior to cooking it. That cooking tradition is safeguarded and transmitted by master cooks to apprentices. Indeed, *Keskek* has officially entered UNESCO's Intangible Heritage List.

Farewell to the soldiers is another important ceremony in Turkey since joining the army is both a duty and a political right for all Turkish men who are twenty years old. It is believed that every Turk was born as a soldier. Therefore, certain foods play crucial roles in the organization of that farewell party. The families of the young people who will attend the military soon may sacrifice animals. They organize "soldier meals" with the meat accompanied by rice, namely *pilav* in Turkish. The rice is cooked rather differently than the rest of the world in Turkey. It is sizzled in stewpot at first to have it a creamy, buttery, and melt in the mouth consistency and taste. At the meal, there is the soldier's *baklava*, *asker baklavası*, the most popular sweet in Turkey. The farewell to the soldier ceremony ends at the bus station, holding the Turkish flag and dancing with the families that are left behind in pride and sadness.

The henna-night, *kına gecesi* in Turkish, is another important rite of passage. It is the most colorful part of the wedding female rituals. It takes place at the bride's parents' house, one or two nights before wedding ceremony. Usually dressed in red and veiled with a red headscarf, the bride enters to the room where all females are gathered. She sits on a chair and the young girls start walking in circles around her by singing specific songs all together. The mother-in-law takes some henna from the cup and tries to put it in the palms of the bride. The bride refuses to open her hands at first. When the mother-in-law puts a gold coin in the bride's palms, the bride accepts the henna. Later, the henna cup is passed from one female to another and each woman puts some henna in her own palms. Throughout a traditional henna-night, some specific foods are accompanied by dancing, singing and talking. The main food in this tradition includes non-alcoholic beverages, dried fruits, nuts so called *kuru yemiş* in Turkish. Hazelnut, peanut, pistachio, pine nut, chickpea (roasted as *leblebi*), grape, plum, sunflower seed, squash seed, watermelon seed, apricot, almond, walnut, corn are just some examples of Turkish dried foods and nuts. In fact, nuts and dried fruits have social significance in Turkish culture because these foods always associated during the ceremonial events, such as wedding and teeting.

The wedding ceremonies in Anatolia are unarguably the most important and noticeable communal events of the Turkish society. Even though the types of dishes served vary extensively from region to region, the main food is called *keşkek,* a traditional Turkish dish served in weddings as well as circumcisions, funerals and some other religious celebrations all over Turkey. Since marriage symbolizes not just the sacred union of two individuals but also the coming together of two families and extended families as well, a wedding*, düğün* dish, *keşkek* is shared with all who attend the celebrations. In rural areas, *keşkek* is served on a big *sini* a traditional alternative to a table during the wedding ceremony in Turkey.

The last rite of passage is dead. The main food at a funeral ceremony within the Turkish culture is *helva*. The preparation of *helva* is done communally. Made by pan-sautéeing flour or semolina and pine nuts in butter before adding sugar, milk or water, and briefly cooking until these are absorbed, the act of consuming *helva* is a shared community experience, a show of support for the grieving. There are certain days, such as the 7th, the 40th and the 52nd day as well as the yearly anniversary of a person's death, that are being commemorated through a religious ceremony and a meal as well. In particular, the number 40 is a mystic number in Turkish culture. On that day after the death of a person, friends and relatives visit the immediate family all day and night. They bring a meal along and keep them company.

CONCLUSION

In most parts of Turkey, whether religious or non-religious, a certain food is being consumed during the rites of passage. As a result, food is both ceremonial as well as significant within the Turkish society. It also represents the hospitality and the expression of friendship among Turkish people. Therefore, sensitivity to food preparation and consumption during rituals is important toward building and strengthening cross-cultural relationships. Food also plays an important role specifically marking ritual passages. In a ceremonial context what food is served and where individuals sit have symbolic meanings in Turkish society (Besirli 2010: 163). Because Turkish people share similar cultural backgrounds and have similar food habits, certain food plays key roles during specific rites. Hence, Turkish food patterns are identical. Finally, food brings social solidarity and integration via certain ceremonies and rituals. All in all, food reflects the history of Turkish culture in terms of spiritual, cultural, economic and political aspects.

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The Attitudes Of (Distance And Formal Education) Students Toward English Language: A Sample From Bayburt University And Bülent Ecevit University

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ABSTRACT
Distance language education has gained importance in our country especially in recent years. Moreover, most of the universities uses this technology, and the students are decided to get English lessons with distance education, at elementary level such as Bülent Ecevit University, Turkey. However, the main question is whether it is more useful to use distance education option. The aim of this study is to determine whether there is any significant difference on the attitudes toward English language of the undergraduate students from the aspects as their gender, kinds of high schools, and the reasons why they learn English, and the most important one, education type. This comparison has placed in the primary school teaching department which is a problematic department on learning English. From this perspective, this study adds a new dimension on literature. Survey method was used in this study. The participants are composed of 80 undergraduate students from the department of Primary School Teaching, at the Faculty of Education of two universities; formal education from Bayburt University and distance education from Bülent Ecevit University. The data were collected from English attitude questionnaires and were analyzed via SPSS statistical program. According to the results, the attitudes toward English have significant differences toward gender and education type. However, the attitudes do not have significant differences toward purpose and the type of high school.

Keywords: attitude, English language, distance education, formal education

INTRODUCTION

Learning language becomes a grifted concept including dependent or independent variables. In Turkey, the most demanded foreign language is English. Thus, it is getting more and more essential to research about it. English language has been studied by linguists pivoting around Turkish and English languages, in Turkey. However, there are still lots of problems waiting to be searched. More deeply, the attitude studies, toward the languages, have gained ground as being one of those problems in learning language. Some of the students have positive attitudes for the language on contrary with the others. The differences of attitude depend on different variables. Toward English, the attitudes developed by the students, vary according to some factors such as gender, distance education, the reason why they learn English etc. Those factors were researched in this study. Even under the same conditions, the students may develop different attitudes. Ergin (1980) states that the lesson may be in relation with the student's past or a problem. The experiences become important for the attitudes. In literature, Cook (1991) attracted notice that individual differences have important role in learning second language learning.

As English is the compulsory lesson in the first grades of all universities in Turkey, it is necessary to examine the attitudes as the individual difference of students. Moreover, from the other side of the coin, and with the development of the technology, some universities comply with the technology and present the English lessons as distance education programs, which means that the students can attain the lessons online such as Bulent Ecevit University, in Turkey.

Distance language education has been introduced via radio program in 1970s, and it has gained importance in our country especially in recent years, since people want to get education not only at schools but also at their home, for instance. On the other hand, some of the applications gain appreciation with the technologic improvements, and nowadays, everybody can try to learn a new language even without interacting other people. Most of the universities uses this technology, and the students are decided to get English lessons with distance education, at elementary level such as Bulent Ecevit University, Turkey.

In Turkish, there are few studies on this ground (Aydoslu, 2005; Çakıcı, 2007; Genç & Bilgin-Aksu, 2004; Gömleksiz, 2003; İnal, Evin & Saracaloğlu, 2005; Kiziltepe, 2000; Saraçoğlu, 2005). Those studies have searched for the different variable effects, but this study examined the attitudes toward the English language whether there is any significant difference among some variables such as gender, education type, the purpose of learning English, and the high school. This comparison has placed in the primary school teaching department which is a problematic department on learning English. From this perspective, this study adds a new dimension on literature. The aim of this study is to determine whether there is any significant difference on the attitudes toward English language of the undergraduate students from the aspects as their gender, kinds of high schools, and the reasons why they learn English, and the most important one, education type. Therefore, it can be possible to state whether there is any significant difference among the variables depending on attitudes of students, to recommend in line with this

situation. Furthermore, the data will shed light on teaching English under better conditions and to increase success rate.

METHODOLOGY

Research method
Survey method was used in this study.

Sample
The samples are composed of 80 undergraduate students from the department of Primary School Teaching, at the Faculty of Education of two universities; formal education from Bayburt University and distance education from Bülent Ecevit University. On the other hand 40 male and 40 female have replaced in this study as participants.

Data collection
The data were collected from English attitude questionnaires. The data collection tool was developed by Aydoslu (2005).

Data analysis
The data were analyzed via SPSS statistical program.

FINDINGS

The results are as follows:

The Analyzes of Gender to High School

Table 1. The descriptive analyzes of Bayburt University (formal education) comparing gender to high school.

gender * highschool Crosstabulation

			Highschool				
			common high school	anatolian high school	anatolian teacher training high school	others	Total
gender	Female	Count	16	3	1	1	20
		% within gender	76,2%	14,3%	4,8%	4,7%	100,0%
	Male	Count	12	5	2	0	20
		% within gender	63,2%	26,3%	10,5%	,0%	100,0%
Total		Count	28	8	3	1	40
		% within gender	70,0%	20,0%	7,5%	2,5%	100,0%

From Table 1, we understand that most of the students graduated from the general high school, and a few of them from Anatolian teacher high school. On the other hand, the number of male students graduated from these two high schools are more than females.

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Table 2. The descriptive analyzes of Bülent Ecevit University (distance education) comparing gender to high school.

gender * highschool Crosstabulation

			Highschool						
			common high school	private high school	anatolian high school	anatolian teacher training high school	vocational high school	others	Total
gender	female	Count	8	2	4	2	4	1	19
		% within gender	36,8%	10,5%	21,1%	7,2%	21,1%	3,3%	100,0 %
	male	Count	7	1	3	1	7	0	21
		% within gender	38,1%	6,8%	14,5%	5,3%	35,3%	,0%	100,0 %
Total		Count	15	3	7	3	11	1	40
		% within gender	37,5%	7,5%	17,5%	7,5%	27,5%	2,5%	100,0 %

From Table 2, we understand that most of the students graduated from the general high school and very few students graduated from private school and Anatolian teacher high school. On the other hand, the number of female students graduated from these school are more than females.

The Analyzes of Gender to Purpose

Table 3. The descriptive analyzes of Bayburt University (formal education) comparing gender to purpose.

gender * purpose Crosstabulation

			Purpose						
			passing	contact with foreigners	find a good job	doing a carreer	undecided	others	Total
gender	female	Count	13	4	1	1	0	2	20
		% within gender	61,9%	19,0%	4,8%	4,8%	,0%	9,5%	100,0%
	male	Count	7	2	0	2	2	6	20
		% within gender	36,8%	10,5%	,0%	10,5%	10,6	31,6%	100,0%
Total		Count	20	6	1	3	2	8	40
		% within gender	50,0%	15,0%	2,5%	7,5%	5,0%	20,0%	100,0%

We understand from the Table 3 that most of the students learn English language to pass the lesson. Only one of them choose the “to have a better job” option.

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Table 4. The descriptive analyzes of Bülent Ecevit University (distance education) comparing to gender to purpose.

gender * purpose Crosstabulation

			Purpose							
			passing	contact with foreigners	find a good job	going abroad	doing a carreer	undecided	others	Total
gender	female	Count	9	1	2	1	3	1	2	19
		% within gender	47,4%	5,3%	10,5%	5,3%	15,8%	5,3%	10,5%	100,0%
	Male	Count	7	0	4	1	8	0	1	21
		% within gender	33,3%	,0%	19,0%	4,8%	38,1%	,0%	4,8%	100,0%
Total		Count	16	1	6	2	11	1	3	40
		% within gender	40,0%	2,5%	15,0%	5,0%	27,5%	2,5%	7,5%	100,0%

Again we understand from the Table 4 that most of the students learn English language to pass the lesson.

The Analyzes of Education Type to Attitude

Table 5. T-Test results of education type to attitude scores

Group Statistics

Education Type	N	Mean	S	Df	t	p
face to face education	40	95,65	19,96	78	2,67	,009
distance education	40	107,07	18,15			

As we understand from the Table 5, the attitude toward the English language, there is a significant difference in education type [$t_{(78)}$= 2,67, p < 0,01].The students taking distance education have more positive attitudes than the students taking formal education.

The Analyzes of Gender to Attitude

Table 6. T-Test results of gender to attitude scores

Group Statistics

Gender	N	Mean	S	Df	T	P
Female	40	109,40	15,96760	78	3,95	,000
Male	40	93,32	20,18807			

As we understand from the Table 6, the attitude toward the English language, there is a significant difference in gender [$t_{(78)}$= 3,95, p < 0,01]. The female students have more positive attitudes than the male students.

The Analyzes of Attitude to High Schools

Table 7. The ANOVA results of attitude scores to high schools.

ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2562,505	5	512,501	1,333	,260
Within Groups	28443,982	74	384,378		
Total	31006,487	79			

According to results of Table 7, there is not a significant difference between attitude and the high schools [$F_{(5-74)}$= 1,33, p > 0,01].

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The Analyzes of Attitude to Purpose

Table 8. The ANOVA results of attitude scores to purpose

ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	3475,384	6	579,231	1,536	,179
Within Groups	27531,103	73	377,138		
Total	31006,488	79			

According to Table 8, there is not significant difference between the scores of attitude and the purpose . [$F_{(6-73)}$= 1,53, p > 0,01].

DISCUSSION AND RESULT

English language is the language of universe and has the priority in communication. It cannot be ignored that English is essential both in technology and education. In Turkey, most of the students are taken English as the foreign language. Naturally, the attitudes become the most important factor in learning English. There are lots of studies examining the attitudes toward English language. The positive attitudes have positive effects on learning, on the other hand, the negative attitudes have negative effects, or cause delaying the learning. To develop a negative or positive attitudes toward a language varies from different variables. According to the results, the attitudes toward English have significant differences toward gender and education type. Selçuk (1997) and Kobayashi (2002) stated that there is significant differences with gender in their studies, on the other hand Çakıcı (2001) found different results. However, the attitudes do not have significant differences toward purpose. In this study the type of high school does not have any effect on the attitude in learning English but Çakıcı (2001) found that high school is important factor for the first grade students.

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The Benefits And The Lımıtatıons Of Dıstance Educatıon In Unıversıtıes: A Pattern Of Turkısh Language Course

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ABSTRACT
Distance education is a student- based –teaching method which is conducted by a specific center and communication between teachers and learners are conducted via structured teaching units and electronic media when classroom activities cannot be conducted because of the limitations in traditional teaching and learning methods.
Distance education whose use is continuously becoming more and more prevalent in recent years entails advantages and disadvantages with the awareness that distance education created. In this article, the content of the distance education system which depends on technology and the benefits and the limitations which are caused by that system are dealt.

Key Words: Turkish language, distance education.

INTRODUCTION

Role of education in the development of society is great. Teaching and training started with the beginning of the history and different methods and techniques which have been applied as the time passed and changed everything with the aim of raising the level of learning. In addition to the traditional teaching methods, technology has been used in recent years. With the beginning of the use of internet in education, some problems which could not be soluted till that time has been dealt and it is inferred that it is possible to educate the learners by using contemporary methods as well as traditional methods. As an advantage of technological developments, distance education is a system which paves the way for the students to be educated individually wherever and whenever they like without the needs of physical school environment. Distance education has become prevalent because of the physical inadequacies in education institutions, as a result; disadvantageous circumstances such as social complexities, individual differences and especially geographical distance disappear. What's more, the high-speed of the feedbacks between teachers and learners, improvement in student motivation because there is no limitation of time, low-cost, the objective measuring and evaluation are on foreground. In spite of the fact that there is teaching beneficences in distance education, there are also limitations. Some of the most important problems are that : Some problems which are highly possible to come across may not be solved in time, lack of eye-contact between the teacher and the learner, so trust-worthy feedback cannot be got or the problems stemming from the inadequate technological background are merely some of them.

Courses are conducted via distance education in many departments of the universities in our country. In recent years, giving lectures such as Turkish Language, English, and History in the first grades of the academic departments in the universities is an application which is constantly becoming prevalent. In this study, the application of Turkish Language course via distance education system by analyzing advantages and disadvantages of the distance education system which is based on internet.

What Is Distance Education?

Distance education is the system whose fundamental principle is to educate the learners by taking into account the problems of time and place when the learners are far away from the physical school environment. It is a kind of interactive education which is carried out via information technology without the existence the limitations in traditional teaching and training method on the condition that classroom activities cannot be carried out. In order to maintain the communication and interaction between the learners and the people who plan and apply this education, specially prepared teaching units and various environments are prepared by a specific center (Cagiltay, 2002). Considering all of these descriptions, distance education is an application which aims to bring the learners together even though they are in different places. The learners who are independent from time and place take education interactively in virtual media via available computer technologies and distance education is and innovative and technologic approach which enables the students to follow the information and courses again and again by using the records of the courses.

Historical Background Od Distance Education

Improvements in distance education are parallel with the developments in the field of education technology. Dating from 1728, distance education started in the newspaper "Boston" with the title of "Steno Courses". The application

of "Composition Lessons via Letters" for women was followed by Sweden University. A step towards the application of modern distance education was taken in Chicago in 1892 with the foundation the department "Education via Letters. "Hermands", which was founded in Sweden in 1898, became one of the pioneering institutions which gave importance to language education. These institutions became prevalent in USA in the beginning of 1990's and "Correspondence primary Education" started in USA in 1906. Those improvements went on with the help of the professors who established 176 radio stations with the aim of education in 1919 and 1920. "Correspondence High School Education" study courses were also founded in 1923. Some important statements on that topic were delivered 1932-1960. Broadcast of education lessons started in IOWA, USA in 1932. Students' education in France was conducted via distance education during war times in 1939. In 1960, British Open University was founded in England. Distance education in Turkey initially was dealt on the basis of the idea by National Educational Minister, Mustafa Necati in 1927, but the researches on that method went on till 1950's. In 1956, Law Faculty of Ankara University and The Research Institute of Banking and Commercial Law were established. In accordance with the developments around the world, Correspondence education Center was opened within the control of Ministry of Education. In addition, Non-Formal Education Institution made contributions to this method between 1975 and 1978 and these activities were developed by the Film, Radio and television Center of Ministry of Education (FRTM), but this attempt was not success. With the establishment Open Education Faculty in 1981, distance education was formally initiated. In that year, Anatoly University came to an agreement and Instructional Media Project was broadcasted. Open Colleges was founded by Ministry of National Education in 1992. Idea Training Package l University Application which uses internet in Middle East Technical University in 1996 was an important step for this branch. A considerably important step was taken in the branch of distance education via the regulation of Intercollegiate Distance Education Based on the Information and Communication Technologies. Some of the universities which deliver distance education in recent years are here:University of California, Stanford University, Utah University, Yale University, Hong Kong University, Harward University, Middle East Technical University, Gazi University, Dokuz Eylul University, Sakarya University, Karadeniz Technical University, Karabuk University, Bulent Ecevit University…

The Benefits of Distance Education

One of the most important advantages of distance education which enables equality in opportunity and makes massive education easier is that it allows the learners to restudy the lesson topics which they could not understand and to repeat the topics again and again. Because the learners analyze their self –development, they have the advantage of adjusting the order and the timing of the content. What is different here from the traditional learning model is that the problem of different learning levels disappears, so it makes easier learners' education. Another important advantage of distance education is that it creates the solution for transportation problem. The accessibility for those who live away from their centers enables the learners to keep on their education via computers. More objective assessment in contrary to classical methods and low education costs because of the us every little material are other good sides of distance education.

In distance education which delivers education based information to all over the world by a specific training center for people who also work. They have the advantage of taking education without leaving their jobs.

The Limitations Of Distance Education

Although distance education has many advantages, the limitations of it may be noticed by evaluating it from different points of view. The most eye-catching problem of this system is that eye-contact which enables feedback and communication cannot be used because learner and teacher relations do not exist. That lack of communication between the learners and teachers makes noticing whether the learner has learnt the new topic or not is hard. Although it is possible to watch the courses again and again, the learner cannot get instant feedback.

Many learners who are accustomed to traditional methods have difficulty in studying alone and failure is highly possible. In addition to it, redundancy on the quantity of the learners leads to lack of communication between teachers and learners. Highly possible technical problems make distance education harder.

Application Of Turkish Language Course Via Distance Education In Bulent Ecevit University

Distance Education Institution was established in Bulent Ecevit University in 2011 and education was initiated in the scope of bachelor's and associative degree in the first grade compulsory courses in the 2013-2014 academic years. Initially, Turkish Language and History courses were delivered and later, English course was added to that program.

Distance education, which has become really important in recent years, created solution for the problem of inadequacy in the number of classroom. Putting into consideration of establishment of the new departments, rise

in the quantitive number capacity of the students, classrooms in the faculties and technical education colleges are not enough and it hinders education. That problem constantly grew in Bulent Ecevit University, deliverance of compulsory courses via distance education allowed having extra classes.

What's more, the academicians who give distance education courses have a better opportunity because academic development has become easier and the system put and end to the problems. The educational materials which are prepared at the beginning of the academic year are uploaded and academicians conduct the courses in accordance with the curriculum in their offices, so it helps conduct successful courses and it allows the instructors to give instant feedbacks.

The learners who have to be both a student and a person in business world have the opportunity to clear away the problem of extra labor force via taking these common compulsory courses in this system. Also, the learners have the opportunity to watch the courses again and again if the cannot understand it to solve the problems at the end of the weekly-course topics and to take answer by either e-mailing or by going to the academicians' offices. Academicians in Bulent Ecevit University are highly-qualified to answer the learners' questions whenever they like. Mid-term, final, makeup and excuse exams are applied on the same day and hour for each course in the whole university. It allows supporting the objectivity of the exams. All first-grade students have the exams for the same goal. However,

Having the exam on the same day and hour creates a problem on the number of the classrooms in the faculties and colleges. This circumstance is accepted as one of the limitations of distant education.

CONCLUSION

Education system which parallels with the technological developments in our country and the world is constantly developing and improving. Searches for alternative solutions have been maintained to terminate the problems such as redundancy in the number of the students because of the alternative education methods. As one of these solutions, distance education removes the problems of access to learning environment and time by enabling the learners to take courses via computers based environments. What's more, it always helps the learners to get information again and again via records.

As well as the good sides of this method, negative points are observed, too. Firstly, in an environment where technology exists, technical problems restrict the quality and the time of education. Also, success level of the especially introversive students may fall because of the fact that there is not eye- contact and classroom environment in distant education is contrary to the traditional method. Problems which stem from exam-times are another limitation. As a conclusion, distance education system and distance education courses are beneficent for the learners who are good at having access to information, but it is a disadvantageous education for the learners who are accustomed to taking education via traditional method.

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The Cognitive Structures Of Students In Faculty Of Education Regarding The Concept Of 'University'

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ABSTRACT
In this study, it is aimed to reveal how students studying in the Faculty of Education perceive the concept of university. Case study design, qualitative research approach, was used in this study. The working group is comprised of students, a total of 85, studying in the Faculty of Education in Siirt University during 2014-2015 academic year. In this study, it is strived to reveal and analyze how the students in Faculty of Education construct the concept of 'university' in their mind through the use of a 'Word Association Test'. The data obtained in this study were analyzed according to content analysis. Suggestions were made in accordance with the findings.

Keywords: University, Faculty of Education, Candidate Teachers

INTRODUCTION

The origin of the word 'university' is "Universitas", a word meaning *'a community of people which have common interests and independent legal identity'* in Latin. Until the 19th century, the fundamental functions of the universities were education and training. Until this time, universities in Europe were institutions where only the children of the rich and nobles could study. Higher education was regarded as an endeavor which contributes the privileged people to get knowledge by means of its cultural, artistic and scientific disciplines, to improve and mature spiritually. Universities underwent a rapid development period both in quality and quantity in the 19th century. After these years, the need for reforms in higher education was appeared and research function was also added to education and training activities. This approach, which marked the 19th century higher education system, continued in the first half of the 20th century as the scientific and technological research and development dimension were included (Tural, 2011: 7-8). Universities of the 21st century have begun to be original and privileged as they are producing knowledge, and to share the knowledge acquired for the development and welfare of the society (Sahin and Yildiz, 2005). The concept of '*university*' today means "a community of scientists and students, which has its foundations on science, universality, unity and unitary elements" (Ataunal, 1998).

Since they play a prominent role in individual and social change, universities have to provide societies with both a global perspective and an understanding of the world. In other words, universities play a key role in all information production processes, namely production, testing, sharing, publishing and implementation processes. Universities are considered to be social mobility devices by each of the social sectors. Universities are the main frequency to obtain free, autonomous and individual identity and create a living practice (Sahin and Yildiz, 2005).

Universities have four essential functions, (i) producing information, (ii) teaching, (iii) presenting information and (iv) spreading information. Universities realize the production function through research and development activities, teaching through educational activities, presenting information function by providing counseling service to the community and spreading information through scientific publications (Gunay, 2004). Researches in the literature also emphasize these functions of the university. For instance, Yucel (2006) purports universities' missions are to follow scientific research, to monitor what has been done and to contribute to the development of science at an international level. Ortas (2004) advocates that universities are environments which prioritize mental processes to emotional processes in a philosophical discussion, and places to enable people to realize events by observation and discussion. The Head Council of Research, Planning and Coordination (2002) enumerates the objectives of the university as (a) to educate and raise students in accordance with their interests and abilities according to manpower needs of the society at high level and at different levels, appropriate for the country's science policy, (b) to do research in scientific fields, (c) to publish any kind of publications to disseminate research – analysis results and contribute to the progress of science and technology, and (d) to finalize research, investigations and analyses ordered by the government and then provide expert opinion on them. According to Wasserburg (2002) is a scientific and rational educational institution where knowledge is produced and transferred, and learners are taught skills and how to use technology.

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University education, an important step in the education and training process, is of paramount importance since it constitutes society's intellectual capital, pioneers the society and raises the labor force of the future. The vital qualities of the universities are to raise highly qualified students, to provide labor supply in line with the economic needs, and to compete in national and international market. A university which has the essential infrastructure, physical spaces appropriate for training, the social services departments which contribute to socialization and qualified teaching staff can directly affect achievement performance in students' lives (Orer, 2006).

Faculties of Education in universities also draw attention with their excessive number of students, as well as training staff for a very basic profession, teaching, to raise future generations. During a period of rapid change taking place in universities, the importance of Faculties of Education is increasing day by day, rather than decreasing. University students' perspectives regarding university or how they perceive it seems important. In this study, through the use of a 'Word Association Test', it is strived to reveal and analyze how the students in Faculty of Education construct the concept of 'university' in their mind. It can be said that findings are of great importance because they reveal a panorama of the current situation.

METHODOLOGY

Research Design

Case study design, a qualitative research approach, was utilized in this study. A case study is a research method which identifies a phenomenon within its natural and real living framework and examines cases up-close, in-depth, and systematically (Yin 2003; McMillan, 2000; Verma & Mallick, 1999; Cohen & Manion, 1997). In a case study, it is highly important to present data as detailed, direct and supported by participants' own statements as possible (Punch, 2005; Kus, 2003). In this study, however, data concerning the cognitive structures of students in faculty of education regarding the concept of 'university' are analyzed as detailed as possible.

Working Group

Eighty-five volunteer students studying in the Faculty of Education in Siirt University, during 2014-2015 academic year, constitute the working group. However, phenomena 17 students wrote down concerning the key word provided and sentences they structured were considered to be 'irrelevant' and excluded. 31 participants were females and 37 were males, a total of 68 participants.

Data Collection

Independent word association test is one of the most widely used techniques to analyze individuals' cognitive structure and associations among concepts, namely the information network, in this structure, and to reveal whether the associations among concepts in long-term memory are sufficient or not (Hovardas & Korfiatis, 2006; Atasoy, 2004; Bahar & Ozatli, 2003; Cardellini & Bahar, 2000). This technique is based on an assumption that an individual should independently respond in relation to a stimulant-word, without limiting the ideas that come to mind (Bahar, Johnstone & Sutcliffe, 1999; Sato & James, 1999). Data are collected in two stages.

In the first stage; the participants have to respond the first five words that the stimulus word brings to their mind within a certain period of time (30 seconds) in the independent word association test. Thereby, the risk of chain response can be prevented. Because, if a student does not revisit the key concept for each response, instead of the key concept, he/she will write down the words that are reminded by the words he/she has written down. In the second stage; though, the participants are asked to construct sentences concerning the key concept within a certain period of time (30 seconds). Sentences related to the key concept in response may also be products of associations, not only associated with the key concept at the level of recall. (Ercan, Tasdere & Ercan, 2010).

Data Analysis

In the analysis of WAT (*Word Association Test*), response words every student provided for each key word are identified one by one. Similar response words obtained are combined and categorized according to the topics. Words considered as irrelevant, many words unrelated to other words and words repeated many times are not included in the evaluation. It is calculated how many times the words under each category are repeated and frequency table is prepared. The data obtained from the independent word association test are analyzed using word count, number of responses and semantic relationship techniques (Atasoy, 2004). The words answered to have the same meaning are classified under the most frequently repeated words. The words are categorized using the semantic relationship criterion and frequencies of the words in each category are calculated (Kurt, 2013; Kostova & Radoynovska, 2010; Kostova & Radoynovska, 2008; Daskolia, Flogaitis & Papageorgiou, 2006).

Another method used to analyze data obtained from WAT is the cut-off point (CP) technique introduced by Bahar, Johnston and Sutcliffe (1999) and creating conceptual network. In the light of frequency tables, 3-5 numbers down the maximum response words for any key concept was used as cut-off points. Concepts and response words over

this frequency were associated by means of interconnection lines and the first part of the conceptual network was created. Afterwards, the cut-off point was lowered step by step and this procedure lasted until all the key words appeared on the conceptual network (Ercan, Tasdere & Ercan, 2010). Each cut-off point interval indicates response words provided by candidate teachers, as many as that number, in response to the key concepts. By establishing links between these concepts and response words, conceptual networks were revealed in the interval regarding that cut-off point.

FINDINGS

The findings obtained in this study are presented by making use of tables and figures. Words produced in relation to the concept of 'university' and frequencies are given in Table 1. In the second stage, the conceptual networks were created by using cut-off technique with respect to these data.

Table 1. Categories regarding the concept of university, words and their frequencies

Categories	Concepts in categories	Frequencies of the concepts (f)	Concepts in categories	Frequencies of the concepts (f)	Total frequencies (f)
Education Environment	Academician	*18*	Learning	*6*	*113*
	Knowledge	*15*	Lesson	*5*	
	Education	*13*	Self-realization	*5*	
	Book	*13*	Responsibility	*4*	
	Examination	*11*	Department	*3*	
	Student	*9*	Ability	*2*	
	Institution	*9*	---	---	
Getting a Profession	Profession	*9*	Student	*5*	*70*
	Expertise	*8*	Status	*5*	
	Education	*6*	Future	*4*	
	Freedom	*6*	Higher Education	*3*	
	Finance	*6*	Examination	*3*	
	Work	*5*	Life	*3*	
	Learning	*5*	Hope	*2*	
A Place for Social Life	Freedom	*8*	Entertainment	*3*	*43*
	Friend	*7*	Student	*3*	
	Socialization	*7*	Money	*3*	
	Happiness	*5*	Dreams	*2*	
	Activity	*3*	Love	*2*	
Free Speech Environment	Free Thought	*7*	Education	*3*	*22*
	Science	*4*	Development	*3*	
	Achievement	*3*	Skill	*2*	
Difficulties Encountered	Financial difficulties	*3*	Labor	*2*	*7*
	Conflict	*2*	---	---	
Total	***24***	***182***	***23***	***73***	***255***

Education environment: When responses of the students of Faculty of Education with respect to the key concept 'University' are analyzed, it is observed that "Education environment" (f=110) stands out as the dominant category. It is revealed that the most frequently repeated concept is 'Academician' (f=18). This concept is followed by "Knowledge" (f=15), "Education" (f=13), "Book" (13), "Examination" (f=11), "Student" (f=9), "Institution" (f=9), "Learning" (f=6), "Lesson" (f=5), "Self-realization" (f=5), "Responsibility" (f=4), "Department" (f=3) and "Ability" (f=2). "Success", "Resource", "Modernity", "Laboratory", "Discussion", "Talent", "Higher Education Institution" and "Time" are examples for concepts which are not presented in Table 1 since they were stated only once. In this category devoted to the educational environment, it is observed that a majority of students associate the concept of "University" with elements that make up the university education, while fewer students do it by associating with their individual skills and development.

Sample opinions in this category are as follows:
"Universities are places for modern education where students are provided with high-level information by academic staff, also by making use of various textbooks." (S3)

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"It is a high-level educational institution in which individuals can improve themselves and people have to fulfil their responsibilities."(S26)
"University is a place home to education, where individuals are placed in accordance with their capabilities, take courses and have oppotunity to self-realize themselves." (S51)
"It is an educational institution in which students continue their education in departments they are placed according to their exam results." (S56)

Getting a profession: When responses to the key concept 'University' are analyzed, it is observed that "Profession" (f=9) was repeated most and "Expertise" (f=8) was ranked as the second in this category where perspectives with respect to getting a profession come into prominence. These concepts are followed by "Education" (f=6), "Freedom" (f=6), "Finance" (f=6), "Work" (f=5), "Learning" (f=5), "Student" (f=5), "Status" (f=5), "Future" (f=4), "Higher education" (f=3), "Examination" (f=3), "Life" (f=3) and "Hope" (f=2) respectively. Sample concepts which are not presented in Table 1 since they are repeated only once are "Make-up exam", "Studying", "Difference", "Opportunity", "Human resources", "Career", "Combat", "Maturation", "Money" and "Project". Under this category devoted to a profession, the concept of "University" is associated with the facts that social status is increased and future anxiety is disappeared since people become financially independent as a result of getting a profession.

Sample opinions in this category are as follows:
"An institution in which individuals are provided education and training in order to get a job and be more successful in their careers." (S11)
"An institution which takes on important tasks to prepare individuals for the future, make them become financially independent and consequently heighten their social status by means of the education service it provides." (S14)
"A higher education which trains staff for business life" (S36)
"The only hope on the point of getting a job, obtained through exams." (S46)

A Place for Social life: It is observed that "A place for Social Life" (f = 43) has been associated in third place regarding the concept of "University". "Freedom" (f = 8) was repeated most, and the concepts of "Friend" (f = 8) and "Socialization" (f = 7) seem to be second and third respectively. These concepts of "Happiness" (f =5), "Activity" (f =3), "Entertainment" (f =3), "Student" (f =3), "Money" (f =3), "Dreams "(f =2) and" Love "(f =2) follow these concepts. "Perspective", "Education", "Travelling", "Relationship", and "Environment" are the concepts repeated only once and so not included in the table. In this category oriented towards a place for social life, it is revealed that students put an emphasis on financial freedom along with the individual freedom, and associate with socialization through friendship and fun events in general.

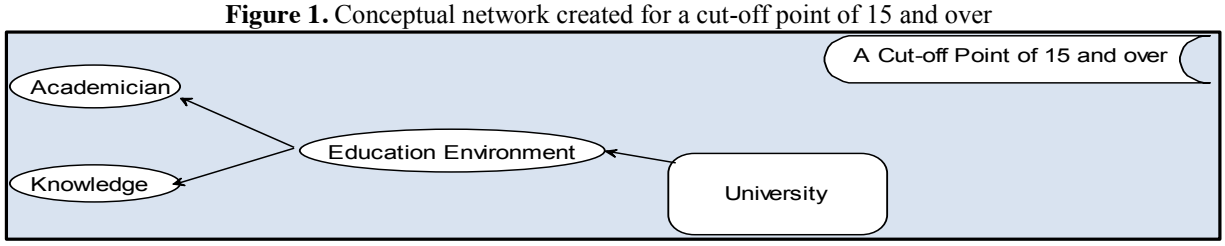
Sample opinions in this category are as follows:
"The university environment is one of the freest environments available to students. We have the opportunity to realize our dreams through this freedom. "(S6)
"Our university is a place of love, fun and happiness. University days are the most beautiful days of human life. "(S33)
"It is a place home to education where because of freedom, socialization and fun activities we do not realize how fast time passes. We also achieve happiness despite financial difficulties." (S49)

Free Speech Environment: In this category (f=22), in which the concept of "University" and "Free Speech Environment" are associated, it is observed that the concept "Free Thought" (f=7) was repeated most. This concept is followed by "Science" (f=4), "Achievement" (f=3), "Education" (f=3), "Development" (f=3) and "Skill" (f=2) respectively. "Good manners", "Speech", "Maturation", "Culture" and "Style" were found to be sample concepts which are not presented in Table 1 since they are repeated only once. In this category, students emphasize the importance of education in terms of knowledge, skills and development within a process of free speech along with a free thought environment.

Sample opinions in this category are as follows:
"... University is an environment in which free thought exists." (S15)
"It is a free thought environment where students are informed and improved their skills." (S19)
"It is a community of mature and cultivated people who can express themselves freely." (S43)
"It is an environment where people have opportunities to know themselves and improve their skills." (S53)
Difficulties Encountered: In this category (f=22), in which the concept of "University" and "Difficulties Encountered" (f=7) are associated, it is observed that "Financial Difficulties" (f=3), "Conflict" (f=2) and "Labor" (f=2) are repeated. Some concepts which are not included in Table 1 since they were stated only once in this category are "Exams", "Responsibility", "Caprice", "Obligation", "Absenteeism", "End-point" and "Time". In

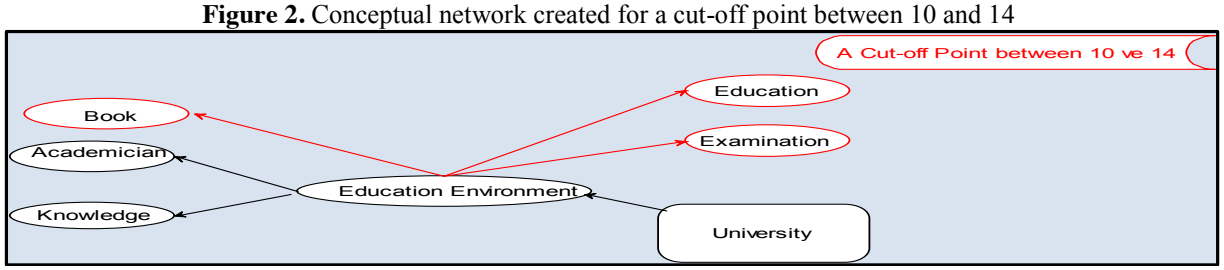
this category, students associate financial difficulties and conflicts they experience in friendship environment. In addition, it is inferred that students need excessive labor to fulfil expectations.
Sample opinions in this category are as follows:
" I thought that I would get rid of the Transition to Higher Education Examination (YGS in Turkish) for which I had made a great and intense effort, spend time to the fullest, make good friends, be upgraded as a knowledgeable person and have fun when I had come to the university. But, financial difficulties I had turned everything upside down. "(S21)
"Individuals inherently have different views and many people do not accept these differences. Therefore, conflict environment occurring from time time to time creates disappointment to me." (S45)
The associations between the key concepts and words produced are presented according to cut-off points. The conceptual network created for a cut-off point of 15 and over is displayed in Figure 1.

Figure 1. Conceptual network created for a cut-off point of 15 and over



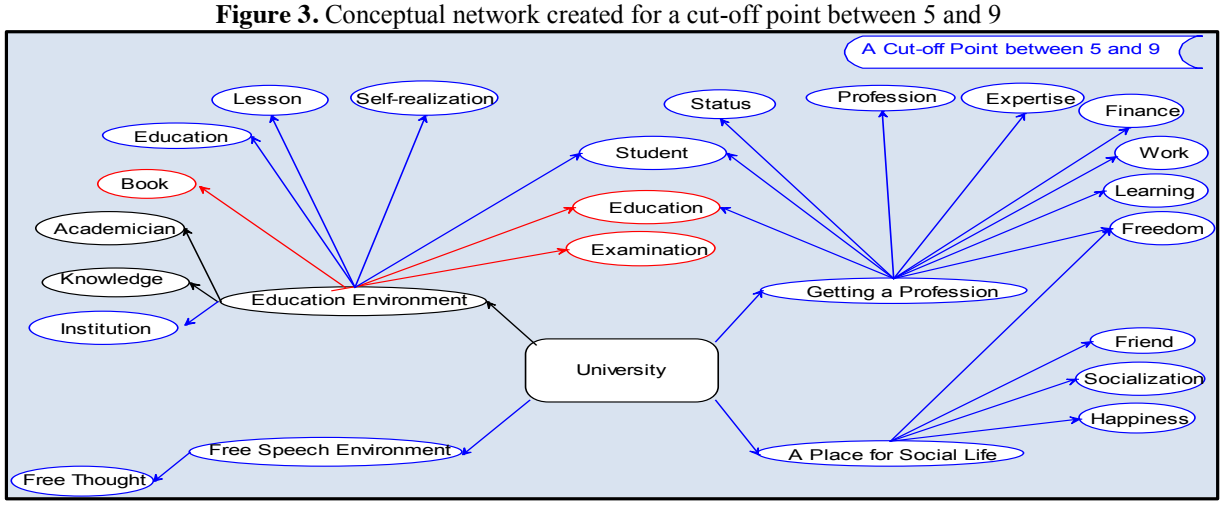
A Cut-off Point of 15 and over: As displayed in Fgure 1, students have produced sentences, regarding university, only towards the category 'Education Environment' in this interval. Therefore, only the education environment category was included in the conceptual network. Students associated the education environment with the words 'Academician' and 'Knowledge'.
The conceptual network created for a cut-off point between 10 and 14 is displayed in Figure 2.

Figure 2. Conceptual network created for a cut-off point between 10 and 14



A Cut-off Point between 10 ve 14: As displayed in Figure 2, it is worth noticing that students have only produced sentences towards the category 'Education Environment' although there seems an increase in the number of the words produced in this interval. Here, different aspects of the educational environment begin to emerge in this interval. The words 'book', 'education' and 'exam' are associated with the educational environment in this category.
The conceptual network created for a cut-off point between 5 and 9 is displayed in Figure 3.

Figure 3. Conceptual network created for a cut-off point between 5 and 9



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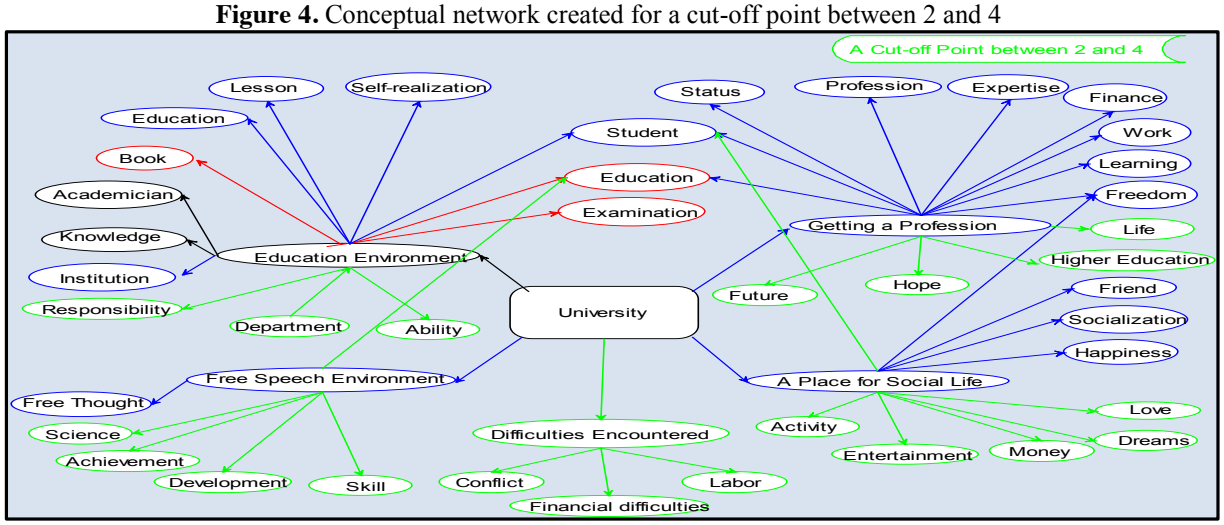
A Cut-off Point between 5 and 9: As displayed in Figure 3, sentences towards the categories 'Getting a profession', 'Social Life' and 'Free Speech Environment' along with 'Education Environment' were also constructed by the students in this interval. The word 'Student' is associated with both 'Education Environment' and 'Getting a profession' while the word 'Freedom' is associated with both 'Getting a profession' and 'Social life' categories in this interval.

In the category 'Education Environment', the words, which seem to be not associated with other categories out of education environment, are institution, learning, lesson and self-realization respectively. Profession, expertise, finance, work, learning and status are the words associated with only the category 'Getting a profession'. The words only associated with the category 'Social life' are friend, socialization and happiness. In the category 'Free Speech Environment', however, free thought is the only word associated with this category.
The conceptual network created for a cut-off point between 2 and 4 is displayed in Figure 4.

Figure 4. Conceptual network created for a cut-off point between 2 and 4



A Cut-off Point between 2 and 4: In this interval, it appears to be the whole conceptual network including all the words regarding the concept of 'university'. In this case, it is found out that the word 'education', associated with the categories 'Education environment' and 'Getting a profession' before, is also associated with 'Free Speech Environment' and likewise the word 'Student' previously associated with 'Getting a profession' and 'Education environment' is associated with 'A place for Social Life.' Likewise, the word 'Examination' previously associated with 'Education Environment' has also been associated with 'Getting a Profession' in this case.

In this interval, responsibility, department and talent are the words only associated with 'Education Environment'. Future, higher education, life and hope are associated with the category towards getting a profession. The words associated with the category 'A Place for Social Life' are activity, entertainment, money, dreams and love respectively. Achievement, education, development and skills are associated with 'Free Speech Environment' while financial difficulties, conflict and labor are associated with the category 'Difficulties Encountered.'

DISCUSSION, CONCLUSION and RECOMMENDATIONS

In this study was examined the cognitive structures of students of Faculty of Education regarding the concept of 'university' by utilizing a word association test.

With reference to the words candidate teachers have significant associations, a total of 47 concepts were identified under categories 'Education Environment', 'Getting a profession', 'A place for Social Life', 'Free Speech Environment' and 'Difficulties Encountered'. The most sentences were produced for the category 'Education Environment'. The concepts which students significantly associated in this category are academician (f = 18) and knowledge (f = 15). On the conceptual network created for a cut-off point between 10 and 14, it appeared to be the category 'Education Environment' only and the associations of the concepts 'Education', 'Book' and 'Examination' draw attention in this category. With reference to these two networks aforementioned, it is inferred that students attribute to university as an educational environment. On the concept map created for a cut-off point between 5 and 9, though, three new categories appeared. The concepts 'Student' and 'Education' are the common points of the categories 'Education Environment' and 'Getting a Profession' while the concept 'Freedom' is a common point associated in both 'Getting a Profession' and 'A Place for Social Life' categories. These categories draw our attention to different functions of the universities. The associations appeared here are that the universities are environments where anyone can express himself/herself freely, they cause changes in students' life by its social

activities, and a profession is obtained as a result of university education. On the conceptual network created for a cut-off point between 2 and 4, however, even if new associations for each category appear, it is worth noticing that financial difficulties students have in university, conflicts based on diversity of views and excessive labor because of constant study, all categorized under 'Difficulties Encountered'. This category is of great importance as it indicates how essential the counselling services for university students are.

When the conceptual networks created are evaluated as a whole, the educational dimension and vocational dimension of the university rise into prominence and rank first and second, respectively. 'A Place for Social Life', 'Free Speech Environment', and 'Difficulties Encountered' are other dimensions arise. Korkmaz and Bagcesi (2013) reached similar conclusions in their study. Their research concluded that students perceived 'university' concept as the expression of freedom, space, process, future, cultural diversity and pessimism.

It can be considered as a negative condition that 'University as a community of researchers', 'University as a (development-based) public institution', 'University as a personal development' and 'University as a factor of production (an entrepreneur)' categories do not reveal in the study. Owing to the fact that cognitive maps regarding the concept of 'university' also reveal the level of knowledge of candidate teachers concerning the concept of 'university' concept, it can be interpreted that universities have weakness in terms of functions related to the categories not revealed in this study. Therefore, we can say that universities should include more applications intended for these categories.

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The Conventional Arts Education In Turkey, Z Generation, The Confusions In Perception And Inabilities

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ABSTRACT
Supplies brought by today's information technology and their application are as finds their place in every stage of life. This means that the younger generation uses these tools in everyday life practices extensively and due to the transformation of mental perception, generational perceptions differ significantly. Inter-generational differences in perception are so significant that the scientific world classifies these generations under the descriptions such as 'Y' or 'Z' generation. Although Today's digital Technologies are used in the arts education, they are used as an apparatus into the conventional training. In other words, only small changes in the artistic education programs were being realized and digital technology was applied into existing course contents. Traditional design tools and expression remains as the way they were and digital Technologies are used as the auxiliary tools only. It is necessary to create a new configuration for the Z Generation which has a different perception. Since the generational differences effects the perception and interpretation of arts it could be told that conventional training is no longer sufficient in terms of maintaining the functionality on creativity. For example, the virtual environment emerges with the digital technology offers new tools for artists and makes a heterogeneous practice possible as artist would never have with conventional education methods. In this study, a general assessment was made on the capability of the current program to create a 21 st-century art education. We think the conventional art education system can't be resumed considering the differences of the Z generation which is going to start to the Art Schools in a near future and with this research we refer to the reasons of it.

Keywords: Turkey, Arts education, Traditional education paradigm, Generation Z, New directions in education.

INTRODUCTION

Great changes and transformations are lived in the education area as well as in many things from 1990s when information age started to now. One of basic reasons of this is that the visuality phenomenon, as more powerful than that being written and verbal, makes itself present in every area of life. Communication resources and visual and auditory tools, which have been formed by technological developments, gain different speed and dimension to the information transfer. In this sense the education phenomenon presents an appearance carrying a series of problems requiring thinking over again.

Individuals growing up in this "new society" order established on technologies called information or computer age give life meaning with new view angles and perceptions in consequence of digital tools and new media brought by them. For these generations, who go out of traditional social life perceptions much, to be defined names such as Y generation and Z generation are given.

The generation concept has a strong basis in sociological theory, but academic and empirical proofs of generational differences are complicated. Inconsistencies are possible as well as common grounds. Nevertheless, as a result of the researches, it has been detected that many generational differences are available in terms of personal specialities, behaviours and attitudes. In the literature generations are defined by separating into five groups.

1. Generation of Traditionalists: Those born between 1922 and 1945
2. Generation of Child Explosion: Those born between 1946 and 1964
3. X-Generation: Those born between 1965 and 1980
4. Y-Generation: Those born between 1981 and 2000
5. Z-Generation: Those born in 2001 and later

Z Generation name is given to the generation in that those born after 2000 take place. Since this generation was born in a totally technological age, it is also described as "Generation I", "Internet Generation", "Next Generation" or "iGen". Another name for them is "Instant Online Generation". Z Generation is separated with three factors from other ones.
a) As age and life range (ontological factor)
b) As age and technology in that time (sociological factor)
cAs phenomena and experiences (historical factor)
The present Higher Education System in Turkey, as in all around the world, has the teaching staff composed of the generation of Traditionalists, the generation of Child Explosion and the X-Generation, and the students

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composed of Y-Generation. In the near future the students of the Z-Generation will start to study in universities. The teaching staff of the generation of Traditionalists, the generation of Child Explosion and the X-Generation try to educate Y-Generation now. There is not a discussion medium for Z generation yet.
Traditional education model has been established on a structure/model composed of placing as much information as possible into the memory of students and remembering this information when needed towards forming information inventory in their brains before they begin to work.
This structure / model includes the elements below:
a)The teaching staff writes something on the blackboard, gives a lesson and wants students to study some pages from the text book,
b) The student listening to the teaching staff in class takes notes at the same time and tries to widen and deepen his/her knowledge by reading books about that subject outside.
When compared to the past generations, that Z Generation has important differences has been determined by many researchers. For example, the cognitive abilities are performed in a different way by Z-Generation. How this generation remembers, comprehends, applies, analyses, synthesizes and assesses the information includes significant differences according to the past generations.
The teaching staff servicing in Turkish University education know quite well what they should teach to students. However, they haven't got enough accumulation of knowledge about how they will transfer this information to the Z-generation students and about how the Z-Generation will take this information. It is seen that this matter will come to the forefront as an important problematic in the near future. Because that the traditionalist education model including passive learning methods won't be adequate in the education of Z-Generation is kind of known reality.

1.Aim

Art education, as a leading and burning matter of education, is always present as a problem continuously occupying the teaching staff. This study has been established to include the general determinations towards how art education would happen for Z generation, and what things new identities and responsibilities of the art educator can be has been dealt.
Depending on special conditions of every country, given the necessity of arranging the curriculum of art education, the art curriculums applied in the education of universities of Turkey should be updated according to changing conditions has been tried to be discussed.

2. Education of future passes from technology

The acceleration and easiness in reaching information and the diversity of communication facilities bring along a process in which freedom and originality are obligatory within contemporary education approaches. That digital technology carries a power relatively shaping every area of life requires fundamental change and restructuring in schools as well as positive effect on education.
Even the present generation's individuals, who perform their education on information networks, come across rich contents and live a situation which doesn't merely depend on (not being passive) the teacher's knowledge. Especially thanks to multimedia and Internet technologies, those, who are not happy with the present education system, can take education from any place of the world in the way they want, and this situation increases its effect day by day.

Predictions towards the future design in education gradually become concrete. For example, it is said that macro-universities will show up as of 2030s and the university education modulations lasting for many years will vanish. Since speed and information flow will come out far beyond that perceived now, more logical result will be that traditional university education lasting for many years will be replaced by short-term micro universities, where specialism will be in very special subjects. It is natural that as an extension of this the paradigmatic change in the art making tradition and depending on that, new values about the nature of art will create changes in learning and teaching processes. Primary change in this area will be that the focus of interest in learning and teaching processes will be established on "learning"; and as a result of all these, it can be said that new formats differentiating teaching and learning will occur. For example, quite impressive ideas about how technology will change classes can be available. The aforesaid things are not simple ideas like one laptop for each student. Virtual schools are modulations such as education without teacher and individual based education through software declaring how students give reactions to lessons or education environment by measuring breathing and mimics of students, being far beyond today.
In other words, it can be said that paradigmatic changes starting from the middle of the twentieth century but intensifying in its last quarter and continuing by increasing its speed in this century make going to transformation in Turkish education system obligatory. Fundamental changes in philosophy, curriculum, method and applications of education are kind of the first steps to be taken for this transformation.

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ART EDUCATION

Today art, with its wide view angle, beyond being a deed performed merely with its own peculiar instruments, has transformed into a seeking of plural meaning that is related with different disciplines and feeds on them.

The usage area of digital technologies today becomes widespread in art area as well as every area. Technology has come out as a prominent phenomenon in changing the art education perspective in the last century. In many art works technology takes place as both usage and subject. This causes aesthetical perception and structuring based on conventional context to leave their place to quite different seeking and aims.

Since technological instruments, when compared to other areas of education, start to form new aesthetics in the art creating area and so in new paradigms, artists show the tendency of moving away from the droning works and conventional methods. They feel obliged to tend to use the expression facilities of various areas. And while art educators live the astonishment of this process, they also try to understand the change and to get a new identity. In short, in the present age, when information is consumed fast and technological developments show increase in the same speed, a new education modulation is needed for the change in artistic creation forms and for new manners of telling.

1. Perception of Z Generation and Necessity of New Modulations in Art Education

Technology's use in modern societies has completely entered life of human. Technology is used everywhere from watches to mobile phones or to e-mails. Z generation is individuals of such a world. Technology influences life of Z generation much more day by day and so art educators have to prepare their education curriculums according to perceptions of this generation and accordingly themselves.

There are a series of discussion regarding Z generation members abroad. In turkey the wide scale academic research made towards Z generation is not adequate yet. Nevertheless, it can be said as specialities of Z generation all around Turkey that the age for beginning to use computer is eight, the age for beginning to use the Internet is nine and the age for beginning to use a mobile phone is ten.

That Z generation is always online and lives with technology has developed their ability of taking information fast and establishing bonds between a series of information quickly. These abilities of them actually provide them to establish a very wide network. They are such a generation that they regard different cultures and view angles as natural due to the abundance of communication instruments and are open, more than ever before, to different cultures and to those not resembling themselves at all. Another speciality of them is that they are not team player, but prone to that being individual.

The 21st century has been quickly changing the secular culture from the text based communication to visual pleasure, and reforming cultural codes. These new codes have been established on that being visual. So art transforms into virtuality by means of various technological appearance methods, changes the life areas to art or changes itself to daily ordinary experience. The mass media such as Internet, TV and mobile phones make every kind of information easily reachable by means of secular networks of visual world in universal basis.

Many technological components such as computer, video, light and sound have taken their places alone or all together in the artists' expression manners. Technology has presented to the artist new expression manners and tools and therefore completely changed the thinking structure, perception and seeking of him and his audience.

That traditional learning and teaching methods and media will remain inadequate in responding to the differentiated perceptions of the Z generation, who was born and grown up in digital age. So that educational institutions innovate their education programs and support them with advanced technologies will become an obligation beyond necessity.

2.Preparing an Art Education Curriculum is an Art too

When new and different channels come out, in art education some subjects will face with the phenomenon of being neglected, dropping to the second plan or being eliminated. In this eclectic and pluralistic platform, where life, culture and art styles continue their presence as hybrid, that strategies, concepts and approaches of art show changes is a natural requirement. So to adequately state today's art by classic art education methods and iconography or iconological thought will not be possible. And as a natural result of this, it is necessary for the art education curriculums to change and to adapt themselves to stylistic, aesthetical and conceptual character of modern art.

In these curriculums the structural flexibility and quick harmony with the developing technology come to the forefront as a determinant factor. Because thanks to this flexibility, to keep up with changes quickly and catch the technology of the age may be possible. Another point necessary to be emphasized significantly here is the reality that the individualized curriculum designs will not conform to conventional testing methods. To put new measuring and assessing systems into operation bears a special importance.

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3. Situation in Turkey

The universities are institutions which embody a considerable amount of young population mass of the country. To be able to truly read demands of the Z generation, who can perceive the change very fast and who also pass through a quick process of change, is a prominent property as a significant priority all around the world.

Now Y generation having been born between 1980-1999 forms 35 percent of Turkish population that is 77 million, and Z generation having been born in 2000 and later forms 23 percent of the population. When percentages are transformed into numeric quantity, it is seen that Y generation forms 27 million of the country population and Z generation forms 18 millions of it, and this is a big population ratio. In a short time, this big ratio forming the Z generation will turn up at the gates of universities to take education. When looked at from this perspective, it is seen that curriculums of many public universities now even haven't got properties including differences of the Y generation.

It can be said that the main character of the traditionalist attitude and strength in art education in Turkey exhibits parallelism with the general situation of art. The general tendency of the art education has been established on a model having an academic attitude and method trying to operate values of representation. In this context, the available art education system has a position open to discussion with its various aspects from quantity to qualification. The structuring of the model has been predominantly founded on the given compulsory lessons, grading systems, bureaucratic norms and procedures. Although there is a kind of university education, the measuring and assessing quality is kind of a continuation of high school rather than assessing academic, intellectual and artistic quality of trained students.

While in the art education in today's Turkish universities the teaching staff make studies of the art works, they take students to museums and galleries as many times as possible to be able to keep interest alive, but mostly use the media (photograph etc.) used in the reproduction of images. In other words, they apply to the object-based learning strategies.

When the near future is taken into consideration, it can be seen that the art educators are obligated to gain abilities which can prepare ground to use new expression facilities in shaping infinitely many producible and extensible concepts. Within conventional art education strategies (primarily in the context of mentality and then of curriculum), it cannot be said that today's educators use technology completely. In fact, technology increasingly exceeds all limitations. Today's art education is structured with the project or web-based distance education models which are interdisciplinary and take the student as centre. In other words, the paradigmatic transformation in education doesn't only affect the teacher and student, but also thrusts itself forward as having a unity including changing the whole education system.

It's a known reality that being a prisoner in the available thought patterns greatly prevents new realities from being perceived. In this sense, it's necessary that new thought patterns enter into the art education modulations of Turkish universities and so new curriculums are formed. Because new realities can never be defined with old patterns of thought.

When looked at from today, most of the education managers taking place in the education system cannot see or don't see the new realities or tendencies, but it's seen that they look forward to evaluate them within old perception moulds. Actually, the results include a series of problems. In other words, it is seen that Turkish education modulations except a few private universities haven't been able to go out from this predicament.

IN LIEU OF CONCLUSION

Since Z generation individuals was born and grown up in digital age, that traditional learning methods won't be adequate for them, who are known to have quite different perceptions from the previous generations, comes out as a given reality.

In a near future the generation called Z generation will start to take education in universities. The first step of arrangements to be made towards perception and learning ways of Z generation is to find new program modulations by changing the education method. The secondary factor is to accomplish changing habits of the teaching staff.

The effect of digital technology, in which unlimited heterogeneous factors unite to each other perennially, on education gradually increases. Digital technology continuously changes learning and teaching styles. For example, researchers of Harvard University state that 50 % of information in the k-12 schools will be given on-line by 2019. We should state that Turkish education system cannot do anything more than equipping students with the available curriculums and abilities required by these means the paralysation of it.

The effect of digital world in the art education field comes to the forefront more specifically; and actually, to realize fundamental changes in the art education of universities and to restructure them is necessary. Also in Turkish universities established on traditional understanding taking teaching as basis, this phenomenon immediately must be open to discussion, the substructure of the art education must be restructured and preparing the art educators, who will apply this structure effectively, is needed. When schools, which are the most strategic part of education system, are restructured suitably with these changing conditions and transformed into learning schools, to reach goals more effectively will be possible.

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Turkish university education system exhibits an appearance getting stuck between the modern and traditional education paradigms. The similar phenomenon is also valid for art education. As a result, the necessity of transformations towards the next generations in education system makes itself feel with its all aspects.

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The Correlation Between Learning Objectives And Student Self-Reported Motivation In An English For Specific Purposes Project (Degree In Tourism)

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ABSTRACT
This study has been conducted during English for Specific purposes project work on gastronomy (Degree in Tourism at Florida Universitaria, affiliated to the University of Valencia). It approaches the issue of motivation in second language acquisition from an innovative perspective, the advisability to establish a correlation between the project learning objectives and students' self-reported degree of motivation about them. This paper presents a task-based study focused on two instruments: a *questionnaire* to identify students' initial motivation and an *observation form* to monitor progress. Empirical data have enabled the lecturer to adapt the methodology and improve project performance and results.

Keywords: ESP; motivation; learning objectives; tourism.

INTRODUCTION

The study presented in this paper has been conducted at Florida Universitaria (Affiliated to the University of Valencia, Spain). Starting from the premise that universities are responsible for training future professionals to succeed in their careers, this institution has based its methodological innovation on interdisciplinary projects. There are two main features of these projects; on the one hand, they are focused on professional competence acquisition and on the other, they are performed following the problem-solving approach. The empirical research presented here has been carried out in an English for Specific Purposes course, which is one of the subjects in the interdisciplinary project conducted in the first year of the Degree in Tourism Management.

Many are the variables that contribute to low or high task-achievement but certainly, as Gardner (2007) states, they will be mediated by motivation. The present study raises a major question of concern to educators that is motivation in second language acquisition. Since extensive research has been conducted on motivation and its influence on achievement in the past decades, we are going to focus this study on class-task performance and add a new component to the relationship established between motivation and achievement, that is the suitability of establishing a correlation between the learning objectives set by the lecturer and the motivation levels reported by the students. This could improve processes and results.

Learning objectives are the cornerstone of any class activity because teachers base the methodology on achieving them in an effective and motivating way. Frequently teachers are so convinced of the suitability of the task-specific goals that they assume that students will enthusiastically engage in that particular class assignment. However, occasionally, students' attitudes are not as positive as expected and this makes the achievement of the desired outcome difficult; this situation is particularly relevant when we ask students to participate in projects that last several weeks or even longer, as in the case of the project we are presenting. Longer class projects require more motivation.

Since there is evidence to suggest that students and teachers perceive things differently (Bernaus & Gardner, 2008), it seems essential to know the degree of motivation students have about the learning objectives set by the teacher for a particular project. Experience enables some lecturers to sense students' interest from the moment they explain the class assignment, but our proposal aims to obtain students' self-reported information about their motivation for each learning objective (do learners see the benefits of achieving those objectives? do they feel motivated? do they want to get engaged?).

Two major benefits can derive from getting this information directly from students; on the one hand, the teacher will no longer work on impressions but from empirical evidence, he/she will be able to adapt objectives and methodology to obtain the final desired outcome. On the other hand, students' opinions will be taken into consideration, and this will result in students feeling that teachers have a special interest in them which can encourage them to engage and participate actively (Williams & Williams, 2011).

Since motivation is a dynamic concept, the purpose of this study is to identify the students' initial motivation and monitor its evolution throughout the project implementation; losing motivation during the project development can make the whole teaching-learning process fail. Two instruments have been designed to gather the information needed: a questionnaire about the learning objectives and an observation form based on motivational behaviour.

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This study has been carried out with a group of 20 first-year students, during a project based on Valencian gastronomy. This is a task-based analysis, which means that it is very specific for a particular subject and therefore has a small-scale scope. Results will show if there is a possibility to apply this method to the other subjects in Florida's interdisciplinary projects.

In the following sections a brief review of the literature that has directly influenced the study will be presented. Then, the scenario in which research has been done will be described. After that, the method applied to obtain feedback about students' motivation, findings and conclusions will be detailed.

MOTIVATIONAL FACTORS

Extensive research has been conducted in motivation and there is consensus on the importance and complexity of the topic but, although each scholar has made a valuable contribution to understand student motivation, no theory seems to be complete yet. However, from Dörney's point of view (2001) the most important question is not what motivation is but how it can be increased. Not even a classification of motivation is that important since it does not help explain the role motivation plays in second language learning. It is the intensity of motivation incorporating the behavioural, cognitive and effective components that is important (Gardner, 2007). In this sense Guilloteaux & Dörney (2008:56) add that "without sufficient motivation individuals with the most remarkable abilities cannot accomplish long-term goals".

There is common agreement on the importance of motivation because it contributes to achievement, although it does not guarantee it, furthermore, for Schmidt et al. (1996), it is unclear from many studies whether motivation is the cause or the result of successful learning, but a reciprocal relationship can be established as Keblawi (2006:48) puts it, "Motivation can affect achievement and be affected by it".

If we narrow the scope of this literature review about motivation to second language acquisition only, research shows a clear difference between motivation for the language and motivation connected to the class (Gardner, 2007; Bernard, 2010). Class motivation focuses on the individual's perception of the task but it can be influenced by an array of factors related to the language class. As Dörney (2001) explains, if the components of task motivation were identified, teachers could select and administer tasks in a motivating manner increasing learner engagement. Task motivation being the core of the study presented here, we are going to follow Dörney's suggestion and summarize some of the scholars' contributions to the motivational factors that have closely influenced our research.

Williams & Williams (2011) detailed five key ingredients with an impact on student motivation in the classroom: student, teacher, content, method/process, and environment. Within each ingredient they outlined several factors that can enhance student motivation. From their list of factors we have chosen 4 that are directly related to our study: mutual goals, making the content relevant to real life, teamwork and ICT. We have also added interest and autonomy for their relevance to the analysis presented here.

As regards, *mutual goals*, lecturers need to know students' goals or reasons for learning, often learners are motivated, but they are not motivated to do what we want them to do (Ames, 1990). Certainly, as Williams & Williams (2011) highlight, students need to know the goals and what they are going to get out of the process to get motivated.

Making the content relevant to real life is particularly important to students' careers. In this sense, we are linking "motivation" with "transfer", following the terminology of Ngeow (1998). According to this researcher, students understand that the learning process is relevant and transferable to other situations, which makes them feel motivated when acquiring new knowledge.

Teamwork is another motivational factor that has been widely supported. It is accepted that it can contribute to learning (Williams & Williams, 2011). But we should be aware of the influence among team members, which is not always positive. As Dörney (2001) indicates, the motivation of the task participants is not independent of each other, when a student works with highly motivated or unmotivated partners, this affects the learner's own attitude towards the task. Despite the many operational issues that can have a negative impact on collaborative work, researchers show that there are more advantages than drawbacks. As examples we can take studies carried out by Bianchetti et al. (2000), or Alberola & Gil (2009) based on on-line collaborative activities; they found that students' motivation and participation increased when working in teams.

These two examples bring us to the next motivational factor to be highlighted, the use of *technology and information from the internet*. Both have been considered highly motivating since the late nineties; things are

different now and some of the novelty value of ICT has been lost, but we still find they can create a meaningful and motivating context to frame the collaborative project-based approach, As Warschauer (2000) stated the key to successful technology in language teaching lies in the capacity teachers have to plan, design and implement such activities.

Another motivational factor closely related to our project is *interest*. Evidence shows that higher levels of personal and situational interest are associated with students' greater learning commitment and higher levels of achievement. Interest is also one of the essential characteristics of intrinsic motivation in the self-determination theory (Deci & Ryan, 1985). Students who are intrinsically motivated not only feel autonomous, and self determined, but also experience high levels of interest. But as Pintrich (2003) remarks, the key is not demonstrating that interest matters but trying to understand how and why interest has its effect on learning and achievement.

Some scholars highlight that interest is a key motivational factor, but it can be replaced by *value* to get students to engage in education. Sometimes students want to do an activity because of its personal value, meaning or relevance regardless of motivation or interest (Deci et al., 1991; Vansteenkiste et al., 2006). This idea is applied to the business context by Stone et al. (2009), they claim that what they call "integrated regulation", occurs when employees fully endorse the importance of the work even though they may not find it interesting.

Autonomy is a key element of self-determination theory and the last motivational factor of special relevance in our study. Teachers who are autonomy supportive will have more positive effects on students' motivation, learning, and achievement, than teachers who encourage intrinsic goals in a controlling way. But, it is not easy, teachers will need to use creativity in formulating the goals and the way they are introduced (Vansteenkiste et al. 2006).

All the above mentioned factors contribute to student motivation, but the dynamicity of motivation is a fact, particularly for class assignments that are performed throughout various class sessions. As well as Dörney & Ottó (1998), Pintrich (2003) or Keblawi (2006), many other scholars emphasize the dynamic character of motivation in education. Motivation changes over time and over the development of a particular task depending on many factors; as McCombs (1995) sees it, students are naturally motivated but this motivation is positively or negatively influenced during the learning process by internal or external factors. Certainly, there is a need to better understand the development of motivation and expertise in a particular assignment.

PROJECT DESCRIPTION: PROMOTING VALENCIAN CUISINE.

First-year students enrolled on the Tourism Degree programme, have been participating in an interdisciplinary project that aims to analyse the tourism resources of the Valencian region. As a contribution to this project, students in the English for Tourism module, were tasked to research the local gastronomy as a major tourism resource. Participants had to analyse the data obtained, choose the attributes they wanted to promote and, with all the information gathered about Valencian cuisine, prepared an article in English to be published in a specialized magazine and a promotional video to be uploaded onto a tourism website. These were meant to be used as promotional tools on the international market.

The project was carried out with 20 first-year students working in groups (four people per group). The assignment had an estimated workload of 15 hours (10 in class, 5 outside class) scheduled in different sessions from February to April. Since work sessions took place in class and outside the class, the teacher was accessible online when students worked autonomously.

The general goal targeted with the gastronomy project was to improve students' level of English in professional settings by enhancing their command of the following competences: written communication in English, autonomy, creativity, the use of ICT and teamwork. As shown in the previous section, the competences encouraged coincide with some basic motivational factors outlined by scholars.

The specific objectives addressed with this project can be divided into four areas: language and content, knowledge of the tourism industry, ICT, and teamwork. With regard to language and content, our purpose was to make students improve their writing and reading skills, learn vocabulary about cooking and practice translation techniques. As far as the tourism industry is concerned, our goal was to collect information about Valencian gastronomy and traditional festivities related to it, as well as to analyse how gastronomic magazines and promotional videos are produced. The third area aims to improve students' use of ICT, basically searching on the internet, using online dictionaries together with using video recording and image editing software. The last section was related to teamwork, with this project we seek to help students improve their organization skills, ability to negotiate and solve problems.

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DESCRIBING THE STUDY

With this study we intend to present a method to obtain students' self-reported information about the motivational impact of the task learning objectives set. To be useful, a survey has to be easy to administer and not time consuming in terms of preparation, administration and analysis. From this standpoint the system proposed is based on two instruments: a questionnaire and an observation form.

The motivation questionnaire was devised by the class teacher and asked students to assess the degree to which they agreed or disagreed with 19 statements using a five-point scale.

The first three items were about motivation for the project in general, and whether students found the video or the article more interesting. An additional question was asked, to determine how motivating for them was the fact that their project was going to be presented at an international conference (INTE 2015).

To know the motivational impact of each specific learning objective, the rest of the questionnaire (16 items) was divided into the four areas in which those goals had been distributed (language and content, knowledge of the tourism industry, ICT, and teamwork) with one item per objective.

The questionnaire was administered in the first work session after the presentation of the project. With the analysis of the information obtained from the answers, we were able to know the degree of initial motivation for the project reported by the participants.

In order to follow the evolution of that motivation throughout the project performance, a structured classroom observation form was specifically designed for this study. With this instrument we gathered data as manifested in the students' classroom behavior, following the premise that motivation can be measured by observing behavior. The form was divided into 3 parts adapting the variables that Guilloteaux & Dörney (2008) used in their study to measure learners' motivated behavior: *Attention*, *participation* (including regular class attendance,), but given the characteristics of our project, we added *meeting deadlines* instead of *volunteering for teacher-fronted activity* which was not applicable.

FINDINGS

Percentages have been calculated taking into consideration the responses of the 20 students participating in the project on gastronomy.

As regards the questionnaire, students graded each item from 1 to 5. In the present analysis we are going to consider *3* the motivation break-even point, meaning that *4* indicates a satisfactory degree of motivation and *5* the desired degree of motivation. For the purposes of this study the comments on percentages will be mostly based on ratings of between 4 and 5.

From an overall perspective, it can be stated that the degree of participants' initial motivation was satisfactory; figures show that more that 50% of respondents gave a 4 or a 5 to each statement.

If we analyse individual item responses, results show that 78.5% found the English part of the interdisciplinary project to be motivating. The video was more motivating (85,7% with 4 or 5points) than the article (78%). Students also liked the fact that their project was being presented at an international conference, which was the only item on external motivation (85,7% of the participants rated it 4 or 5).

To interpret the findings related to the specific learning aims, we grouped results following the four sections of this part of the questionnaire. In the section about language and content, the most motivating issue was the fact that their reading skills would improve (93% selected 4 or 5), followed by their feeling of having autonomy to create the outcomes (86%) and the improvement of their writing skills (85%). Only 65% of the respondents rated 4 or 5 the two items about learning gastronomic vocabulary and practicing translation techniques. From these results, it can be inferred that for first-year students, although still motivating, the issues related to the tourism industry in which they will develop their career are less appealing.

This is confirmed by results obtained in the second section which is about gastronomic tourism. Only 50% of respondents rated 4 or above the objective of learning about Valencian cuisine and the festivities related to it. However; although participants did not find gathering information about the local culinary resources interesting, percentages increased when students were asked about their interest in learning about gastronomic magazines and promotional videos (71,3% and 92% respectively of students surveyed rated them 4 or 5).

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As suggested by results in the two sections of the questionnaire analysed so far, anything related to videos is highly motivating; nevertheless, in the third part of the questionnaire, about other aspects of ICT, when respondents were asked about the objective of improving their internet search skills and learning about video recording software, percentages fell to 71,4% of participants rating 4 or 5. Another aspect of ICT in this project is the use of tools such as online dictionaries which was only highly motivating for 50% of the participants.

The last section of the questionnaire is related to teamwork. The highest rating about motivation was reached for the acquiring organizational skills objective (85.7% allocated more than 3 points), followed by learning from other group members or learning negotiation skills (71.3% in both cases). Finally, as expected, one of the items about managerial skills, which focuses on the opportunity to face problems with other group members, got the lowest score about motivational impact (57% rated it 4 or 5).

These results were obtained the week before starting work on the project. Although there was time, the learning goals were not modified since all the responses represented an acceptable degree of motivation to participate in the project. But we had the opportunity to work on those aspects that scored lower, explaining them better and reformulating some instructions. For example, we placed more emphasis on making students aware of the relationship between the subject and their career in the tourism industry.

As regards the information gathered by structured observation, results were less positive than those obtained in the questionnaire. During the five in-class sessions (10 hours), the lecturer kept a record of the student behavior related to the following aspects: attention, participation and meeting deadlines.

The most satisfactory aspects to highlight are related to the *attention* paid to the teacher's input, suggestions, etc. A high degree of interest was registered. With regard to participation, people who attended classes participated enthusiastically but one of the problems to overcome is absenteeism. Most students came regularly, but groups do not work as expected even when only one person is missing.

While filling in the form some handicaps appeared, more related to student skills than to motivation. A lack of organizational skills to work autonomously was observed, teams did not have an effective work method and they were unable to deal efficiently with tourism related information. As a consequence, the third aspect to deal with - *deadlines* - was affected. Deadlines were met for the article, but the submission of the video had to be postponed.

CONCLUSIONS AND RECOMMENDATIONS

Establishing a correlation between the project learning objectives set by the teacher and students' perceptions of those objectives in terms of motivation has proved effective. There are two reasons for this assertion; first, during the project preparation the teacher had to clearly outline her learning goals and write them in terms of motivational factors when preparing the questionnaire. This forced the teacher to make a deeper analysis of the learning aims that needed to be met.

Second, from results obtained in the questionnaire, although findings were satisfactory in terms of motivation, the teacher had the opportunity to improve the weaker aspects.

From an operational perspective, the questionnaire designed was easy to administer and analyse. However, it cannot be forgotten that, since it is task-based, it has to be modified from assignment to assignment, because it has to be adapted to the specific learning goals.

The observation form has proved useful to systematize the data gathering, and has helped visualize how issues other than motivation, can strongly influence the outcome. In the present project, we have been able to see how some skills that we assumed students had already acquired in secondary education (teamwork, information seeking, etc.) needed to be reinforced.

On the whole, we are satisfied with the usefulness of the method presented here, but its suitability to be transferred to other subjects participating in the Florida interdisciplinary projects still remains to be seen.

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The Correlational Factors In Attitudes Regarding Marital Infidelity Among Married Woman In Iran

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ABSTRACT
Infidelity or extra marital affairs is a psychological and complex issue that is not easily explained. Traditionally, males have been known to commit spousal cheating; however, female infidelities are also on the rise (Carr, 2010). An international assessment procedure known as General Social Survey (GSS), which is largely a national representation of united State's population showed that men and women equally confess to have cheated on their spouse. The same study showed that in regards to ethnicity, African American population followed by Hispanics showed to have the highest number of infidelity among their group members (Carr, 2010).

Infidelity is not a new concept in non-western cultures, as previous studies have shown its multicultural prevalence and existence (Atkins, Dimidjian, & Jacobson, 2001). Iranian women in the course of the revolution, which took place in 1979, gradually lost most of their social and legal rights; however, the Islamic Republic of Iran's Regime has not been able to sever its Internet connection to the Western world, which has become an avenue for its female population's social freedom.

This qualitative, empirical, and micro genetic study will use a population assessment model adapted from the General Social Survey (GSS), a sociological survey often used to collect data on demographic information of people, who live in the United States National Opinion Research Center [NORC], 2014). The participants will randomly be assigned using locations such as mental health clinics, doctor's offices of psychologists and gynecologists, where females are being treated for a variety of health and mental issues. Demographically, the study will be conducted in two of the largest cities in Iran, Shiraz and Tehran.

The above study will investigate the correlational factors that have led to an attitude change in how infidelity is regarded among Iranian women living in Iran. The findings will also show that the increased use and the availability of cyber media has diluted the conceptual understanding of fidelity and morality indicating a need for future studies in the areas of cyber morality and its implications.

Keywords – Marital infidelity, married woman, attitudes, cyber media

INTRODUCTION

Infidelity or Extra Marital Affairs (EMAs) is a psychological and complex issue that cannot be easily explained by scientific measures. Traditionally, men have shown higher possibility than women of committing spousal cheating; however, females have been known to cheat on their spouse as well. Conversely, infidelities among married females are on the rise. An international assessment procedure known as General Social Survey (GSS), which is largely a national representation of united State's population showed that men and women equally confess to have cheated on their spouse. The same study showed that in regards to ethnicity, African American population followed by Hispanics showed to have the highest number of infidelity among their group members (Carr, 2010).

Infidelity between married couples is defined as one having sexual, romantic, intimate, or secretive relationship with another other than the spouse outside the marriage (Baucom, Epstein, Rankin, & Burnett, 1996). Furthermore, infidelity is not a new concept in non-western cultures; however, previous studies have shown that multicultural spousal cheating is also prevalent in existence (Atkins et al., 2001). The non-western rise of EMAs has also shown signs of being on the rise and it may be correlated to the rapid growth and emergence of technology and globalization.

The hypothetical assumption of this research study was set on the acceptance and prevalence of extra marital affairs (EMAs) among women in Iran and its correlation to relational dissatisfaction, excitement seeking attitudes,

opportunity, and access to satellite TV & Smart phones. Iranian women in the course of the revolution, which took place in 1979, gradually lost most of their social and legal rights; however, the Islamic Republic of Iran's regime has not been able to sever its Internet connection to the Western world, which has become a venue and opportunity for social freedom of its female population. This research study's investigation of the above multi factorial correlations such as relational dissatisfaction, abundant opportunities, access to western satellite programming and internet revealed multi predictors and variables in the rise of EMAs among married couples in Iran, which validated the same findings in previous studies found in western studies (Atkins et al., 2001).

RESEARCH METHODOLOGY

Methodology - This research is based on a qualitative, empirical, and micro genetic methodology using a population sample of female participants, who live in the two largest metropolitan cities in the country of Iran. The study also uses a population assessment model adapted from the General Social Survey (GSS), a sociological survey often used to collect data on demographic information of people (National Opinion Research Center [NORC], 2014). The sample population used randomly assigned female clients at various health clinics, therapist, and gynecologists' offices. The criteria for selection of sample population was that the participants to be married more than five years, have at least a college associate degree, live a middle socioeconomic status (SES) life style, and to be in the 25-40 age group. The demographics were based on two of the largest metropolitan cities in Iran, Shiraz and Tehran, who have a bigger sample population of educated, mid SES females residing. The choice of these two cities enabled the researchers to have access to a higher number of female populations, who are educated thus regularly, seek medial and clinical assistance when needed.

Sample Population – Total pupation chosen was 50 female participants with 31.4 being the average age among them. Average length of marriage in the sample population was 7.73 Yrs. with the youngest 25 and the oldest 40 years old respectively. All participants had been married at least once with 28 women having no children 21 of them having one child or more with an average of 1.4 children per person. Out of 50 participants, 21 did not work, but 29 were working married females with 14 having an average income of under $700 per month and remaining 36 reporting above $1500 per month. It is noteworthy that based on Iranians' living standards, 41 considered their joint family income as mid SES, 4 as low SES, and 5 as high SES. All the participants reported as having smart phone, while 29 participants used their phones for personal messages only, which could mean it is their private cell phone not shared by anyone else in the household.

Data Collection

Category 1 - Date collection revealed that 46% of participants reported having experienced infidelity. The discovery for the infidelities among the participating married females were related to:

- Lack of sexual dissatisfaction,
- Relational incompatibility,
- Partner's shortcomings such as dishonesty or lack of trust,
- High expectation,
- Loveless or lack luster relationships.

In addition to the above reasons for initiating infidelity, all 50 participants also reported knowing females, who have experienced marital infidelity.

Category 2 - Using a Likert scale open and closed ended questionnaire, data collected also revealed that 19 (38%) participants said 'Yes' to whether marital infidelity could be justified, 20 (40%) said 'No', 10 (2%) chose 'Sometimes', and 1 (0.2%) claimed 'Do not know'. The response between the 'Yes' and 'No' is very compatible with the number of participants having experienced infidelity. Overall, 84% of the participants did not find EMAs as a satisfactory way of living; however, 50% of participants did find this method of living exciting.

Category 3 – The course of data collection led to the miscellaneous empirical data findings that 46% of participants have smart phones, 58% have and watch Satellite television regularly, 48% earn a middle class income, 64% of the women in the survey complain of marital sexual dissatisfaction, and 60% are unhappy with their relationship.

LITERATURE REVIEW

The literature review also strongly supported the hypothesis as data from General Social Survey (GSS) between 1991-1996 showed there are multi predictors and variables in the rise of extra marital affairs among married couples in America. The shift in attitudes towards this social behavior has been linked to multi variant factors such as divorce, education, age when first married, and cheating "opportunity". Particularly, working and social

engagement have been instrumental in the increase of such social behavior. Studies by Greeley in 1994 and Maykovich (1976), showed variables such as respondent's income and work status significantly affected the likelihood of couples being engaged in infidelity.

In addition, other indicators such as: a) age and gender, b) religious behavior, c) past divorce, and d) educational level were studied as signs of correlations to extra marital affairs. (Greeley, 1994; Maykovich, 1976). The literature review and analysis was instrumental in this study as it provided a foundation for how the study was designed. The participants' age, income, education, opportunity, and other factors previously studied were also highly considered in this study. Therefore, the multi factorial influences and the confounding variable results in this study revealed similar findings which will be further discussed in the analysis section.

RESULTS and FINDINGS

Specific Results - the final analysis showed that despite having strict governmental policy and harsh punishment by law enforcement the Iranian society is still experiencing opportunities, accessibly, prevalence, and sustainability of such illegal and highly dangerous relationships. The empirical data also supports the fact that stringent criminal laws and punishment are not a deterrent to female infidelity in Iran as 46% of participants reported having experienced infidelity. It is noteworthy to mention that punishment for infidelity for females in Iran is being stoned to death. However, the fear of such atrocious punishment has not deterred some women from seeking the thrill of EMAs.

The Accessibility to technology such as prevalence of smart phones, satellite TV, and open relationships despite the extreme restriction and maximum control by government agencies has made it an easier ground for Iranian woman to vent their sexual and relational frustration through extra marital relationships as responds to questions revealed the unilateral commonality of attitudes and/or acceptance of extra marital affairs even among women with or without children.

Unanticipated Results (Justification of EMAs) - The study revealed that 36% of participants justified EMAs as satisfactory in a companionship and relational sense. It is noteworthy that 26% of Participants found EMAs to be totally moral, justifiable, and ethical, which is also surprising as majority of Iranians identify themselves as practicing Muslims. In addition, 24% justified EMAs as grounds for achieving romanticism and romantic relationship. Only 0.06% considered EMAs as a mean of economical satisfaction such as being romantically wined and dined, receiving expensive gifts, and visiting luxurious places. Other unanticipated result found in the study was that 18% of respondents considered having EMAs as a psychological uplift. The unanticipated findings in this study is encouraging as it inspires the researcher to conduct follow up studies in the area of moral attitudes and other social discourse leading to a change of moral reasoning that led to EMAs being so easily accepted by female married Iranians.

Significant Findings – The study found no correlation between type of marriage (Loving, Loveless, Romantic, etc.) and other criteria addressed in the hypothesis. No correlation found between number of children, socioeconomic status, and hypothetical assumptions. Although, all participants had access to satellite TV, only 6 working participants did not watch satellite TV; the remaining population in the study did. In addition, 62% of participants reported satisfying sexual activity with their spouse; however, 42 reported equal sexual desire versus 38% reporting having a higher level of sexual desire creating a contradiction in reporting. Majority of participants stated 'Love' as the reason for their marriage; however, when asked about justification of EMAs, the response was favorable towards committing spousal infidelity.

DISCUSSION

Findings reflect the correlation between acceptance and prevalence of extra marital affairs among women in Iran to relational dissatisfaction, seeking excitement, and access to satellite TV & smart phones. Results also mirror certain facts such as parallel phenomena between prevalence of extra marital affairs among women in the East and Western Cultures. The findings of the study also echo previous studies done in this particular area, as there may be hidden factors involved in the change of attitude in the rise of infidelity such as other confounding factors.

The researcher designed the questions for this study in a such way that participants' responses would be assessed in several different ways to both decreasing the misrepresentation of answers by the researcher to and the misunderstanding of questions by the participants. For example, marital satisfaction assessment was asked in variety of ways such as sexual, relational, and perceptional to lead to more solid results in answers. This types of questions led to a more comprehensive answers and consequently to better understanding of the responses. Overwhelmingly, findings reflect the acceptance, occurrences, and commonality of extra marital affairs among married women living in metropolitan cities in Iran.

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Even though majority of respondents believed EMA is not fulfilling way of life, surprisingly the reason given was not religiously oriented, thus showing a shift of ethical and moral justification for the defense of such affairs. This type of reasoning is an indication of possibility of other factors being involved in the prevalence of EMAs. Overall, there are multi-factorial influences in justifying, reasoning, and maintaining of such relationships and not all are common, specific, or predictable.

STUDY LIMITATIONS AND RECOMMENDATIONS

In several of the studies, marital satisfaction was measured through a single item: "Taking all things together, how would you describe your marriage? Would you say that your marriage is very happy, pretty happy, or not too happy?" It would have been preferable to have a multi-item, well-standardized measure of marital adjustment, although, this type of assessment tools is not feasible in large, multipurpose surveys (Goodwin, 1992). Also, the above type of questioning limits accurate testing of all the variables including cofounding measures, thus increasing the risk of unexplored variables. Furthermore, in studies investigating EMAs, infidelity must be clearly defined such as having sex with someone other than one's spouse while married. Different cultures may have different interpretation or understanding of what EMAs is; therefore, a clear definition clarifies the concept for participants in the study.

It is important to set high standards in a marital relationship, which decreases the incidents of infidelity. This deemed to be consistent with the results of Baucom, Epstein, Rankin, and Burnett (1996), who found that couples with very high standards for their marriages were the most satisfied and less likely to cheat. The age of participants in the increased rate or the determination of infidelity may also be instrumental since the longer a couple is married the higher chance of engagement in extra marital affairs; therefore, one of the variables addressed should be the length of marriage and correlation to infidelity (Bell et al., 1975; Glass & Wright, 1977; Spanier & Margolis, 1983).

One of the confounding variables may be whether or not previously the couple has been divorced, and if yes, would the cause have been infidelity or extra marital affair. This may be correlated to avoidance of such behavior in the second marriage. Researchers should take this into consideration, while looking at married couples' occurrence of infidelity (Atkins et al., 2001). The lack of quality in the past research designs makes it impossible to know about the temporal order of predictors and the EMS, or whether the infidelity itself may have influenced some of research predictors (most notably, whether the respondent had ever been divorced). Furthermore, lack of longitudinal research on infidelity has created a problematic analytical pathology for researchers, who are interested in the causes of infidelity. This area of research shortcoming needs to be addressed (Atkins et al., 2001). The above study investigated the correlational factors that have led to an attitude change in how infidelity is regarded among Iranian women living in Iran. The findings also showed that the increased use and the availability of cyber media has diluted the conceptual understanding of fidelity and morality indicating a need for future studies in the areas of cyber morality and its implications. This reasoning and acceptance of females' attitude towards EMA may be related to the occurrence and commonality of such incidents, thus general public's dismissal of moral standings may also be a contributing factor. Opportunity and/or having easier access to technological communication tools may also be correlational to the increase occurrences of extra marital infidelities. The easier access to meeting the opposite sex may be instrumental in the prevalence of EMAs in married Iranian women.

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The Effect Of Play Supported Program On The School Readiness Of 60-72 Month-Old Disadvantaged Children

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ABSTRACT
The aim of this research is to examine the effect of The Play supported Program designed for 60-72 month-old disadvantaged children on their readiness levels. The sample of the research has consisted of an experimental group and a control group, each having twenty 60-72 months old children (10 girls and 10 boys) at Göztepe Semiha Şakir Children's Home, an institution under the Turkish Republic Social Services and Society for the Protection of Children in Kadıköy Istanbul during 2010-2011 Academic Year. Research was designed according to pretest-posttest control group model. The Play Supported Program was prepared for the 60-72 month-old disadvantaged children and the training program has been carried out with the experimental group. The control group was not given an extra program. The development and application forms of "Marmara Primary School Education Readiness Scale", which was developed and standardized by Polat Unutkan in 2003, have been used to gather data in the research. The results of the research show that there are significant differences in the favor of experiment group on the aspects of Mathematics, Science, Audio Capabilities, Cognitive and Language Development, Social and Emotional Development, Physical Development, and Self-Care Skills.

Keywords: School Readiness, Disadvantaged Children, Play Supported Program of School Readiness, Social Services and Society for the Protection of Children.

INTRODUCTION
There is a high number of children that need protection in Turkey. According to the data given by the Directorate General of Children's Services under the Ministry of Family and Social Policies in December 2014, the number of children in Turkey are 101.607 (http://cocukhizmetleri.aile.gov.tr). The sufficiency of services provided is debatable (Şimşek, Erol, Öztop, and Özcan, 2008). Due to the factors such as lack of family and negative environmental conditions, children growing up under institutional care, suffer from cognitive, physical, emotional, and social developmental regression and deterioration. Problems for such disadvantaged children are more than just finding accommodation or meeting their clothing or nourishment needs (Fidan, 2005; Şimşek et. al., 2008). According to the results of comparative studies conducted on children who grow up in institutions versus those that grow up with their families, the former frequently suffer from problems with agreement, cooperating, and empathizing (Sloutsky, 1997) that play a major role in social life and family environment; they demonstrate behavioral problems that may continue during their schooling such as attention problems, hyperactivity, and impulsivity (MacLean, 2003); stereotypical behavioral problems such as rocking, and thumb sucking (Yörükoğlu, 1968); have problems with success at school, talent developing, and extracurricular activities (Tuzcuoğlu, 1989) in addition to low cognitive performance, inability to participate in social or emotional transactions, failure to think in correct concepts and terms, getting stuck in details, inability to pass from material world to abstract world with reason and imagination. Children that grow up in institutions fall behind development even though they are well taken care of under good health conditions (Çörüş & Arık, 1999; Kırpınar & Ceyhun, 2013).

Özdemir, Sefer, and Türkdoğan (2008) emphasize the significance of individuals to take social responsibility in the current system to prepare and apply additional programs that would support emotional, social, cognitive, language, and psychomotor development of such disadvantaged children who live in children's homes and need protection. Disadvantaged children need Primary School Readiness Support Programs to make an equal start to primary school with other children. A number of studies concluded that children at low socio-economical level have low literacy (Oktay, 1983) and primary school readiness levels (Baldwin, 2011; Gonca, 2004; Isaacs and Magnuson, 2011; Polat Unutkan, 2006a; Polat Unutkan, 2006b; Polat Unutkan, 2007; Telegdy, 1974). This is very important for 'Children that Need Protection' who suffer many losses in their lives and who are devoid of maternal love and care.

Preparing effective support programs along with qualified staff and rich and stimulant environmental are required to ensure disadvantaged children who are taken care of at institutions so for them to have equal primary school readiness skills as their counterparts and this is the most important obligation of 'accepting right to education of

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the children and granting this right on equality of opportunity basis' principle emphasized at that Article 28 of Convention on the Rights of the Children (http://www.unicef.org/turkey). In the light of results of current research, it can be argued that disadvantaged children need programs prepared with different methods and techniques especially to compliment preschool education. In this context, the aim of this study is to examine the impact of 'Preschool Play supported Program Prepared for 60-72 Month-Old Disadvantageous Children' on primary school readiness levels of such children.

THE STUDY

Design of the study is pretest-posttest control group model. Participants are a total of 40 socially disadvantaged 60-72 months old children getting education at two classes of Göztepe Semiha Şakir Children's Home in Kadıköy district of Istanbul, in 2010-2011 Academic Year. 20 children (10 boys and 10 girls) were randomly assigned to test group and 20 children (10 boys and 10 girls) were randomly assigned to control group.

DATA COLLECTION TOOLS

Two data collection tools were used in the study. The first one is personal information form. The other tool is "Marmara Primary Education Readiness Scale" (MPERS) which was developed and standardized by Polat Unutkan in 2003 for 60-78 month-old Turkish children. The scale is composed of two parts as Development and Application forms. Development Form of MPERS has a total of 153 items, which consists of 4 sub-scales as cognitive and language (74 items), socio-emotional (40 items), physical development (23 items), and self-care skills (16 items) and is filled out by teachers or parents. In this study, teachers filled out development forms. Test-retest reliability (continuity coefficient) of development form was determined as r= .99. Internal consistency coefficient (cronbach alpha) was determined as r= .98. As validity study, its factor structure was established with factor analysis. Internal consistency-cronbach alphas of sub-scales of the development form used in this research were determined as; cognitive and language r= .97, socio-emotional r= .94, physical development r= .89, and self-care skills r= .80.

Application Form of Marmara Primary Education Readiness Scale used in this study has 5 sub-scales as mathematics (46 questions), science (14 questions), sound (8 questions), drawing (3 questions), and labyrinth (2 questions). Application Form is composed of 73 questions with pictures. Application form is individually applied to children. In this study application form was applied to each child by the researcher. Test-retest reliability (continuity coefficient) of application form was determined as r= .93, p< 0.01. Internal consistency coefficient (cronbach alpha) is r= .93 p<.01. As validity study, its factor structure is established with factor analysis. Internal consistency-cronbach alphas of sub-scales of the application form used in this research were determined as mathematic studies r= .96 p<.01, sound studies r= .88 p<.01, science studies r= .86 p<.01, drawing studies r= .81 p<.01, and labyrinth studies r= .95 p<.01.

THE PLAY SUPPORTED PROGRAM

In the study, 'Play Supported Program for Primary School Readiness of 60-72 Month-Old Disadvantaged Children was developed by the researcher to increase primary school readiness levels of children. Education program was prepared in accordance with children's developmental characteristics and in the scope of goals and objectives in preschool education program developed in 2006 for 36-72 month-old children. Goals and objectives were selected from cognitive and language development, socio-emotional development, physical development, and self-care skills and then developmentally appropriate activities were prepared for each development areas. Application of education program was planned to last for eight months during 2010-2011 education year on school days between September and May and as three play activities per day. The target of the games prepared in 'Primary School Readiness Play supported Program for 60-72 Month-Old Disadvantaged Children' was to make sure that children learn by having fun; thus, all activity types are presented with games. The draft of the program was carefully analyzed and altered by 5 experts according to the goals, objectives and study. The experts incorporated incorporating a primary school readiness program with play activities. Following revisions on the education program was made and the program was given its final shape. The duration of the education program is planned to be eight months during 2010-2011 education year during school days in between September and May by three play activities per day.

FINDINGS

According to pretest results of children in test and control groups, no significant difference was found between MPERS Mathematics (U=184,500 - p>0,05), Science (U=193,000 - p>0,05), Sound (U=200,000 - p>0,05), Labyrinth (U=137,500 - p>0,05) sub-scale scores and Application total score (U=151,000 - p>0,05). Contrary to these findings, there was a significant difference in total Drawing sub-scale scores between children in test and control groups (U=122,000 - p<0,05). This difference was found to be in favor of experiment group. Again according to pretest results of children in experiment and control groups, no significant difference was found

between Socio-Emotional Development (U=198,500 -p>0,05), Physical Development (U=169,500 - p>0,05), Self-Care Skills (U=166,000 - p>0,05) sub-scale scores and Development total score (U=144,000 - p>0,05). Contrary to these findings, a significant difference was found between Cognitive-Language Development sub-scale scores (U=126,500 - p<0,05) and this difference was found to be in favor of experiment group.

A significant difference was found between MPERS Application Form Mathematics (z=-3,925 – p<0,05), Science (z=-3,933 – p<0,05), Sound (z=-3,948 – p<0,05), Drawing (z=-3,825 – p<0,05), Labyrinth (z=-3,666 – p<0,05) sub-scale scores and Application total (z=-3,930 – p<0,05) scores of children in experiment group. This difference was found to be in favor of posttest scores of experiment group. In addition to this finding, a significant difference was found between MPERS Development Form Cognitive-Language Development (z=-3,921 – p<0,05), Socio-Emotional Development (z=-3,925 –p<0,05), Physical Development (z=-3,925 – p<0,05), Self-Care Skills (z=-3,927 – p<0,05) sub-scale scores and Development total (z=-3,921 – p<0,05) scores of children in experiment group. This difference was found to be in favor of posttest scores of test group.

A significant difference was found between MPERS Application Form Mathematics (z=-3,926 – p<0,05), Science (z=3,949 – p<0,05), Sound (z=-3,407 – p<0,05), Drawing (z=3,919 – p<0,05), Labyrinth (z=-3,592 – p<0,05) sub-scale scores and Application total (z=-3,927 – p<0,05) scores of children in control group. This difference was found to be in favor of posttest scores of control group. Similarly, a significant difference was found between MPERS Development Form Cognitive-Language Development (z=-3,921 - p<0,05), Socio-Emotional Development (z=-3,922 –p<0,05), Physical Development (z=-3,931 – p<0,05), Self-Care Skills (z=-3,924 – p<0,05) sub-scale scores and Development total (z=-3,921 – p<0,05) scores of children in control group. This difference was found to be in favor of posttest scores of control group.

A significant difference was found between MPERS Mathematic (U=1,500 – p<0,05), Science (U=26,000 – p<0,05), Sound (U=3,000 – p<0,05), Drawing (U=99,500 – p<0,05) sub-scale scores and Application total scores (U=2,000 – p<0,05) of children in experiment and control groups. Contrary to these findings, no statistically significant difference was found between MPERS Labyrinth sub-scale scores of children in experiment and control groups (U=150,000 – p>0,05). Statistically significant differences were also found between MPERS Development Form Cognitive-Language Development (U=,000 – p<0,05), Socio-Emotional Development (U=,000 –p<0,05), Physical Development (U=,000 – p<0,05), Self-Care Skills (U=6,000 – p<0,05) sub-scale scores and Development total scores (U=,000 – p<0,05) of children in experiment and control groups. This difference was found to be in favor of posttest scores of experiment group.

CONCLUSIONS

In conclusion, socially disadvantaged children who participated in this study in the experimental group were found to have higher primary school readiness skills than those children in the control group. When the relevant literature is studied, it can be found that play supported programs have a positive influence on developing children's language (Ahioğlu, 1999; Kavsaoğlu, 1990; Lyytinen, Poikkeus & Laakso, 1997), psychomotor skills (Özdenk, 2007), and social skills (Durualp and Aral, 2010); in fact, play supports all development areas in children (Ömeroğlu, 1992) and children themselves ascribe great importance to it (Santo, 2006). According to the study carried out by Taylor, Gibbs and Slate (2000), children under risk from low socio-economic and diverse ethnic backgrounds participating in Georgia Preschool Education Program are positively influenced from their preschool experiences in terms of school maturity skills. These findings were also supported by a number of studies that revealed benefits of preschool education on academic and intellectual development of children under risk.

When we consider that the 'Play supported Program for Primary School Readiness of 60-72 Month-Old Disadvantaged Children' used in this study was prepared using play method, the positive development in primary school readiness skills of children in the experiment group proved the program's effectiveness. Also when results of studies that test the effectiveness of programs prepared with different methods and techniques, it can be noted that programs that supplement the Ministry of Education Preschool Education Program currently in use lead to positive developments on children's writing awareness (Aktan Kerem, 2001; Breit-Smith et. al., 2009; Edmonds et. al., 2009; Mol, Bus, and Jong, 2009), language development (Yayla, 2003) and sentence and number maturity skills (Turhan, 2004). It can be argued that play as the basis of the program applied in this study and the fact that play enables children to learn by having fun, gaining first-hand experiences, and playing an active role in their learning lead to an increase in primary school readiness scores of children in experiment group. If we look at the results of the study conducted by Dilli (2013), the total scores of children in experimental group in the areas such as mathematics, science, sound, cognitive-language, socio-emotional, physical, self-care skills development and application and development, were all found to be higher than the scores of children in the control group of 'Play supported Program for Primary School Readiness of 60-72 Month-Old Disadvantageous Children'.

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The reasons why primary school readiness scores of children in the control group differ significantly in favor of their posttest scores can be the positive impact preschool education on children's development (Atılgan, 2001; Bilecen, 1995; Ekinci, 2001; Damarlıoçak, 2007; Dinç, 2003; Gonca, 2004; Kılıç, 2008; Özbek, 2003; Öztürk, 1995; Uğur, 1998; Smith, Simmons, and Kameenui, 1995; as cited in Fitzsimmons, 1998; Seçilmiş, 1996; Taner, 2003; Tamkavas, 2003; Yangın, 2007) and the nature of development itself. In addition, the previous research demonstrated that children who receive preschool education have a higher level of primary school readiness compared to children who do not receive such education even when they have disadvantaged backgrounds (Erkan & Kırca, 2010; Pehlivan, 2006; Polat Unutkan, 2003; Polat Unutkan & Oktay 2004; Yeşil, 2008; Yılmaz & Dikici-Sığırtmaç, 2008) and have a higher level of cognitive thinking skills (Polat Unutkan, 2006b). Also, preschool education increases primary school readiness cognitively and supports children to achieve an easier socio-emotional adjustment to school (Turaşlı, 2006). Mathematical skills and academic success of children who receive preschool education such as attention-memory, number recognition, adding-subtracting (Polat Unutkan, 2007; Dursun, 2009); are also higher than those who do not receive such education (Anderson, 1994; Arı, Üstün and Akman, 1994; Arı, Üstün, Akman, and Etikan, 2000; Başer, 1996; Dağlı, 2007; Ergün, 2003; Tuğrul, 1992). The study conducted by Kmak (2010) proved that as years of preschool attendance increased, literacy skills in preschool also improved. In addition to all these studies, Uyanık Balat (2003) aimed to bring forward basic conceptual information of children in need of protection and children who live with their families. In this study, there was a significant difference in conceptual scores between children who could not attend preschool and children who could attend preschool for one year, two, and more years. As the duration of preschool education increases, the mean scores of children also increase. This result is in parallel to relevant studies and it brings forward the importance of preschool education.

This study conducted by the researcher revealed results that are relevant for researchers and educators, and the following suggestions are developed under the light of these findings:

- Effectiveness of this program prepared by the researcher should be tested with various samples and results of those studies should be compared with results of this study.
- The overall development of children in experiment group whose first grade readiness levels were supported with this study should be tracked throughout primary school to investigate the sustainability of the program.
- New studies that investigate the joint effect of support programs prepared for disadvantaged children should be conducted and diverse variables (gender, age, time spent at institution) on the first grade readiness levels of children should be regarded.
- Research that compares the impact of first grade readiness support programs on disadvantaged children and their non-disadvantaged counterparts can be planned.
- Results of this study and other relevant studies should be investigated by the relevant institutions so that necessary precautions can be taken to support an equal start to the first grade by disadvantaged children with their counterparts.

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The Examination Of Mathematic Anxiety Of Vocational School Students In Terms Of Learning Style And Multiple Intelligence

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ABSTRACT
The objective of this study is to reveal whether mathematic anxiety of the vocational school students differs according to the level of development of their learning style and intelligence fields by examining their multiple intelligence fields and learning styles and mathematic anxiety of the of the vocational school students. Survey model has been used in the study. The study has been conducted with 152 students who have education in the machine and metal technologies department of the vocational school of a state university in Turkey. As a result of the study, it has been determined that mathematic anxiety of the students is at middle level. It has been observed that the level of the kinesthetic, interpersonal and naturalistic intelligence of the students is developed and other intelligence fields are at medium level. The students have the most converging and the least accommodating learning style. It has been specified that mathematic anxiety of the students has not been differed according to their learning style. It has been observed that students with lower development level of mathematical and visual intelligence have more mathematical anxiety. Furthermore, it has been determined that students with well developed interpersonal intelligence have lesser mathematical anxiety. There is no significant differentiation in the mathematical anxiety of the students in accordance with the level of development in other multiple intelligence fields.

Key Words: Mathematic Anxiety, learning style, multiple intelligence fields, vocational school students.

INTRODUCTION
Mathematic anxiety is a private type of general anxiety (Brady and Bowd, 2005). In Tobias perspective (1993), mathematic anxiety shows itself as an emotional tension or anxiety in the school or daily life of the individual for the solution of mathematical problems, doing numerical transactions. Bekdemir (2009) states that mathematic anxiety is an unreasoning panic, rush, shame, evasion, failing and fear emotions that prevent solution, learning and success in brief doing math and that show physical indications and reveal while the individual does math or any incidents that require the use of math.

The effect of the mathematic anxiety that students have, had a significant effect on the success of the students on the math class. Anxiety has an important role for students to hold positive attitude towards the math class and enhance their successes (Peker and Mirasyedioğlu, 2003). It is expected that when the mathematic anxiety increases, the interest and success towards mathematics decrease (Taşdemir, 2013). Hembree (1990) stated that mathematic anxiety negatively affects the mathematic success. Ma (1999) reveals that there is a significant and negative relation between the anxiety of mathematics and mathematics success. In addition to these studies, it has been specified that students with high mathematics anxiety have lesser ability for calculation, lesser knowledge about the mathematics and lesser ability to discover the relations and private strategies within mathematics (Ashcraft and Faust, 1994). In the light of this information, we can think that individual with high mathematics anxiety will fail in mathematical activities.

After the emergence of effect of the mathematic anxiety on the mathematic success, researchers focused on the reasons of the mathematic anxiety and variables that may relate with the mathematics anxiety. In this sense, sex

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has been the mostly researched variable. While some researchers specify that female students have higher mathematic anxiety than male students (Betz, 1978; Yüksel-Şahin, 2008), some researchers have not found significant differentiation (Dede and Dursun, 2008). Several variables have been researched that may be related with the mathematics anxiety. Some of the variables; class level (Dede and Dursun, 2008), schools of education (Doruk and Kaplan, 2013; Yenilmez and Özbey, 2006), attitude toward mathematics (Yenilmez and Özabacı, 2003), self-sufficiency perception towards mathematics (Doruk and Kaplan, 2012) It has been expressed that mathematics anxiety has environmental, mental and personal reasons (Hadfield and McNeil, 1994). In this study, it has been focused on whether mathematic anxiety of students of vocational school of higher education in terms of learning style and multiple intelligence that is their personal features. As a result of the literature review, there are limited numbers of studies towards the examination of the mathematical anxiety of the vocational school students (Bekdemir, 2009; Taşdemir, 2013). There is no study such as whether mathematic anxiety of students of vocational school of higher education in terms of learning style and multiple intelligence that is their personal features.

The objective of this study is to reveal whether mathematic anxiety of the students differs according to their learning style and the development level of intelligence fields by examining their multiple intelligence fields and learning styles and mathematic anxiety of the vocational school students. Answers for the following questions have been sought.

1. At what level is the mathematics anxiety of the students?
2. What is the distribution of the learning styles that the students have?
3. What is the level of multiple intelligence development of the students?
4. Does the mathematics anxiety of students differ according to the learning styles of their own?
5. Does the mathematics anxiety of students differ according to the level of development of multiple intelligence?

THE STUDY

Survey model has been based by adopting the quantitative search approach. Because, in survey model, there is a survey over whole of the universe or a group sample or sampling taken from it to have a general information about the universe in a universe that makes up of numerous elements (Karasar, 2002).

The research group of the study is the 152 students who have education in the machine and metal technologies department of the vocational school of higher education of a state university in the Aegean Region of Turkey in the 2014-2015 academic year. The reason why students of vocational school of higher education have been selected as research group is the notion that students of vocational school of higher education may have more mathematic anxiety in comparison to other students.

Data has been collected with three different data collection tools. Mathematics Anxiety Scale (MAS) that has been developed for the prospective teachers by Üldaş (2005) has been applied to the students to reveal their mathematics anxiety. MAS is a quartet liker style scale consisting of 39 articles and seven sub factors. The response choice of scale has been scored as "1= no anxiety, 2=less anxiety, 3= have anxiety, 4= relatively high anxiety". Internal consistency of the scale has been determined as .95. As a result of the research conducted, this value has been calculated as .93. "Learning Styles Inventory" has been used to determine the learning styles of the students (Diverging, Assimilating, Converging, and Accommodating) developed by Kolb (1985) and adopted by Aşkar and Akkoyunlu (1993). Multiple intelligence inventory of Özden (2003) has been applied to specify the multiple intelligence fields of students (Linguistic, mathematical, visual, kinesthetic, musical, interpersonal, intrapersonal and naturalistic intelligence). The expressed inventory has been translated into Turkish by adopting from the multiple intelligence inventory of Gardner and its validity and reliability have been conducted.

Descriptive and inferential statistics methods have been used for the data analysis. The points of the students from the measurement tools have been used for the mean and standard deviation values in a descriptive manner. The average range for determination of the mathematic anxiety levels of the students is as; “1.00-1.75=no anxiety”, “1.76-2.50=less anxiety”, “2.51-3.25= have anxiety”, “3.26- 4.00=relatively high anxiety”. Combined points obtained from the scale have been used to determine the learning styles of the students. The average of the total point obtained by the students to determine the level of development in intelligence fields has been used. Point average for determination of the level of development of intelligence of students has been as 0-7=undeveloped, 8-15= less developed, 16-23=medium level developed, 24-31=developed, 32-40=well developed”. One-way analysis of variance has been applied to the points to determine whether mathematic anxiety of the students differs according to their learning style and the development level of intelligence fields of the students in a inferential analysis. Tukey test has been used to determine the source of the difference determined as a result of the variance.

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FINDINGS

Analysis applied to the data collected for the answers of the questions in the study and results and comments reached in relation to the findings obtained as a result of the analysis have been mentioned in this section.

Anxiety scores obtained from the anxiety scale to determine the level of the mathematic anxiety of the students have been analyzed descriptively. The mean and standard deviation values of the scores obtained from the scale have been used for the determination of the mathematics anxiety levels of the students. Table 1 indicates the mean and standard deviation values concerning the scores of the students from the anxiety scale

Table 1. Mean and Standard Deviation Values Concerning the Scores of the Students from the Anxiety Scale

N	Mean	Sd	Anxiety Level
152	2.36	.50	Less anxiety

When we examine the Table 1, the anxiety level of the students towards the mathematics has been determined as “less anxiety". According to that, we can say that mathematics anxiety of the students are on average level.

Learning style inventory of Kolb has been applied to reveal the learning styles of the students. As a result of the implementation, the distribution of the learning styles of the students has been shown in the Table 2.

Table 2. The Distribution of the Learning Styles of the Students

Learning Style	f	%
Converging	38	25
Accommodating	29	19.1
Assimilating	33	21.7
Divergent	33	21.7
No learning style	19	12.5
Total	152	100

When we examine the data in Table 2, it is determined that learning styles of the students are closely distributed. According to that, we can say that learning styles of the students shows a homogeneous distribution. When we examine the distribution of students according to the learning styles, it is revealed that students with converging learning style have the majority. The students who have divergent and assimilating learning styles that are equal in numbers are the second biggest group. It has been determined that the students have the least of the accommodating learning style. It has been revealed that 12% of the students have no learning styles.

Multiple intelligence inventory has been applied to the students for them to have information about their multiple intelligence. Table 3 indicates the scores of the students that they obtain from the multiple intelligence inventory.

Table 3. The Scores of the Students That They Obtain From the Multiple Intelligence Inventory

Multiple Intelligence	N	Mean	Sd	Level of development of intelligence
Linguistic	152	19.99	6.11	Medium
Mathematical	152	21.76	6.12	Medium
Visual	152	22.65	6.04	Medium
Musical	152	21.42	6.93	Medium
Kinesthetic	152	25.62	5.70	Developed
Interpersonal	152	25.38	6.10	Developed
Intrapersonal	152	21.93	5.75	Medium
Naturalistic	152	24.21	6.90	Developed

According to the average scores of the students from the multiple intelligence inventory, students have developed kinesthetic, interpersonal, naturalistic intelligence. It is revealed that other intelligence fields have been at “medium” level. According to that, we can say that interpersonal, kinesthetic and naturalistic intelligences of the students developed more than the other intelligence fields.

One-way analysis of variance has been applied to the anxiety points to determine whether mathematic anxiety of the students differs according to their learning style. Table 4 indicates the data of the analysis.

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Table 4. One-Way Analysis of Variance Applied to the Anxiety Points of Students According to the Learning Style

Variance	Sum of squares	df	Mean square	F	p
Between groups	.051	4	.013	.049	.995
Within groups	38.081	147	.259		
Total	38.132	151			

When we examine the data on the Table 4, it has been determined that mathematics anxiety points of the students hasn't been significantly differed in statistical manners according to the learning styles of the students (p>.05). According to that, we can say that mathematics anxiety of the students does not differ as per their learning styles.

One-way analysis of variance has been applied to the points to determine whether mathematic anxiety of the students differs according to the level of development of their intelligence fields. As a result of the analysis conducted, it has been determined that scores of mathematics anxiety of the students have not significantly differed in statistical manner according to the development level of linguistic, musical, kinesthetic, intrapersonal intelligence and naturalistic intelligence respectively [F(2,149)=.892; F(2,149)=.123; F(2,149)=.574; F(2,149)=1.468; F(2,149)=.221, p>.05]. According to that, we can say that mathematic anxiety of the students does not differ according to the linguistic, musical, kinesthetic, intrapersonal and naturalistic intelligence. It has been determined that mathematic anxiety of the students differ according to the development level of the other intelligence fields. Table 5 indicates collectively the one-way analysis of variance results applied to the mathematics anxiety scores according to the development level of the mathematical, visual and interpersonal intelligence fields.

Table 5. The One-Way Analysis of Variance Applied to the Mathematics Anxiety Scores According to the Development Level of the Mathematical, Visual and Interpersonal Intelligence Fields

Multiple Intelligence	Variance	Sum of squares	df	Mean square	F	p	Significant difference
Mathematical	Between groups	6.531	2	3.265	15.396	.000	2>3>4
	Within groups	31.601	149	.212			
Visual	Between groups	2.237	2	1.119	4.643	.011	2>3, 2>4
	Within groups	35.895	149	.241			
Interpersonal	Between groups	3.241	2	1.620	6.920	.001	3>5, 4>5
	Within groups	34.891	149	.234			
	Total	38.132	151				

1= Undeveloped, 2= Less developed, 3= Medium level developed, 4= Developed, 5= Well developed

When we examine the Table 5, it has been determined that mathematical anxiety of the students according to the development level of the mathematical intelligence has been significantly differed in a statistical manner [F(2, 149) =15.396, p<.05]. The differentiation realized between the students whose mathematical intelligences have less developed, medium level developed and developed. It has been specified that the mathematics anxiety of the students with less developed mathematical intelligence has been more in comparison to the those whose mathematical intelligence have developed at medium level. Furthermore, it has been determined that mathematics anxiety of the students whose mathematical intelligence have developed at medium level have more mathematics anxiety in comparison to those who have developed mathematical intelligence. According to that, we can say that students with lower mathematical intelligence have more mathematics anxiety. In other words, we can say that students with higher mathematical intelligence level have lesser mathematics anxiety.

It has been specified that anxiety scores of the students have been significantly differed in statistical fashion according to the level of development of their visual intelligence [F(2,149) =4.643, p<.05]. This differentiation has been against to the students with less developed visual intelligence between the students with less developed visual intelligence and students with medium developed intelligence and between the students with less developed visual intelligence and the students with developed visual intelligence. According to that the students with less developed visual intelligence have more mathematics anxiety than the students with medium level visual intelligence and the students with developed visual intelligence. It is possible to say that the students with less

developed visual intelligence have more mathematics anxiety.

Finally, when we examine the mathematics anxiety scores of the students according to the level of development of the interpersonal intelligence it has been specified that there is a significant differentiation in statistical manner [F(2,149) =6.920, p<.05]. This differentiation happens between the students with well-developed interpersonal intelligence and the students with developed interpersonal intelligence and the students with well-developed interpersonal intelligence and the students with medium level interpersonal intelligence. It has been specified that the students with well-developed interpersonal intelligence have significantly lesser mathematics anxiety scores in comparison to other students. According to that we can say that the students with well-developed interpersonal intelligence have lesser mathematics anxiety.

CONCLUSIONS

As a result of the examination conducted to find an answer to the first question of the research, it has been specified that mathematics anxiety of the students has been at the level of "less anxiety". It has been determined that anxiety scores average of the students have been on average value. According to that, we can say that mathematics anxiety of the students are on average level. The result of the study is in compliance with the students where mathematics anxiety of the vocational school students has been average (Bekdemir, 2009; Taşdemir, 2013).

The scores of the participants obtained from the learning styles have been examined to find an answer to the second question of the research. As a result of the examination, it has been specified that students have close learning styles. It has been determined that students have "converging" learning style the most (%25) and %21,7 have "assimilating" style and they have "diverging" learning style at the same ratio. It has been determined that the students have the least of the accommodating learning style. It's remarked that %12, 5 of the students have not learning styles. We can say that these students did not create any learning method specific for themselves. The result of the study supports the result of the studies where "accommodating" learning style has the least learning style for the university students in different departments (Gürsoy-Dikmen and Saracaloğlu, 2011; Okur et al., 2011; Ünal et al., 2013).

As a result of the examination conducted to determine the multiple intelligence fields of the students, it is revealed that their "Kinesthetic", "İnterpersonal" and "Naturalistic" intelligence are “developed” level, other intelligence fields are at “medium” level. According to that we can say that vocational school students can use their brain and body coordination effectively, they have high cooperative skills within group and have high interest in the creatures in the nature. We can think that most of the students have their education at a suitable department for their intelligence fields since their department required hand-arm coordination, coordinated work within the group and interaction with outer environment for their products.

It is tried to be specified whether scores of the students from the anxiety scale differ according to their learning styles and development level of multiple intelligence fields to find an answer to the fourth and fifth questions of the study. It has been determined that mathematics anxiety points of the students has been not significantly differed in statistical manners according to the learning styles of the students. According to that, we can say that mathematics anxiety of the students does not differ as per their learning styles. The result of the study supports the result of the studies where mathematics anxiety did not differ according to the learning styles (Coşkun and Yıldız-Demirtaş, 2015).

When we evaluate the mathematics anxiety of students according to the level of development of multiple intelligence fields; it is revealed that mathematics anxiety differs according to the level of development of the mathematical intelligence, visual intelligence and interpersonal intelligence. It has been determined that mathematic anxiety of the students does not differ according to the development level of the other intelligence fields. It has been specified that mathematics anxiety of the students differs between the students whose mathematical intelligences have less developed, medium level developed and developed. This difference is as “less developed> medium level developed >developed” and it is significant. According to that, individuals with developed mathematical intelligence have lesser mathematics anxiety, and students with less developed mathematical intelligence have more mathematics anxiety. We can say that as mathematical intelligence of the students decrease, their anxiety increase against mathematics. It is expected that students with high mathematical intelligence will have high self-sufficiency towards the mathematics as a result of the study. This result is in line with the result of the study that mathematics anxiety negatively affects the mathematical success (Aschcraft and Faust, 1994; Ma, 1999; Miller and Mitchel, 1994). It has been specified that mathematics anxiety of the students differs according to the development level of their visual intelligence. This differentiation has been against to the students with less developed visual intelligence between the students with less developed visual intelligence and students with medium developed intelligence and between the students with less developed visual intelligence and

the students with developed visual intelligence. According to that the students with less developed visual intelligence have more mathematics anxiety than the students with those with medium level developed visual intelligence and those with developed visual intelligence. When we think that mathematics is a discipline requiring visual intelligence, the students with less developed visual intelligence having more mathematics anxiety support the difference determined between the mathematics anxiety and mathematical intelligence. When we examine the mathematics anxiety of the students according to their development level of interpersonal intelligence, students with well-developed interpersonal intelligence have lesser mathematics anxiety in comparison to those with medium level interpersonal intelligence and those with developed interpersonal intelligence. This result of the study is a reasonable result since interpersonal dimension of mathematics education requires mutual interaction. It is an expected situation that individual that are open to mutual interaction are more successful in learning mathematics and therefore is positive towards the mathematics. Hadfeild and McNeil (1994) divided the reasons of mathematics anxiety into three groups such as environmental, mental and personal. They defined the environmental factors as negative class experience, family pressure, insensitive teachers, presenting mathematics within strict rules and no class participation. Jackson and Leffingwell (1999) specifies communication and language driven setbacks among the reasons of the mathematics anxiety.

The study has been conducted with 152 students who have education in the machine and metal technologies department of the vocational school of higher education of a state university in Turkey by adopting quantitative research approach. The reasons of the quantitative results obtained from the study can be researched in deep and detail by adopting qualitative research approaches. Other factors that are thought to affect the mathematics anxiety may be tested. When we think that mathematics anxiety affects negatively on the success of the students on the mathematics, the results of the studies benefit for prevention of mathematics anxiety of the students.

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The Expedition Of French King Charlemagne In Spain In 778, Historical Sources And Anachronic Reflections On The Song Of Roland

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ABSTRACT
Frank King Charlemagne organizes an expedition in Spain in 778 upon the invitation of some Muslim governors. The Arab and Latin historical sources agree that Frank Army had been defeated before Zaragoza. Charlemagne and his army were ambushed by Christian Basks at Roncevaux Pass by marching across the Pyrenees. The rear-guard of Charlemagne's army was defeated and all of soldiers were almost killed in this battle. For this reason, the most famous Frank epopee *Song of Roland* was written after four centuries. *The Song of Roland* had been written in order to give a historical support to the Crusades. These historical events occurred during the expedition of Charlemagne survive in *The Song of Roland*, but they had been altered: the history had been transformed into legend. In this epopee the Spanish aggressors in the Battle of Roncevaux Pass in the mountains of the Pyrenees became Muslim Saracens whereas they were Christian Basks; the Muslims were considered as pagans who adore the idols.

Keywords: Charlemagne, Song of Roland, Saracen, Roncevaux Pass, Epopee, Anachronism.

1. INTRODUCTION

On 15 August 778, the rear-guard troop of the army of Franks King Charlemagne going back from Spain after expedition was surprised and completely destroyed in the Pyrenees by the Basks to whom the Franks were not in an open war. In his *Vita Karoli* the histograph Einhard mentiones the names of the most important paladins killed among many others: Eggihard, Mayor of the Palace, Anselmus, Palatine Count and Roland, Prefect of the March of Bretagne. The king, who had already crossed the ports of the Pyrenees hastily returned at Roncevaux Pass; unfortunately it was night when he reached to the disaster scene: the mountaineers had dispersed, and even they could not know where to track them. Because of Saxons' revolt, Charles had gone back to France without avenging his exterminated rear-guard.

This is the version given by the *Royal Annals* and the *Life of Charlemagne*/*Vita Caroli* written by the histograph Einhard; they constitute the Latin histography. The Arabic version is quite different: According to the Arab histograph Ibn Al-Athir who wrote at the beginning of the thirteenth century, but drew from old sources, the Muslims of Zaragoza had invited Charlemagne in Spain and they also exposed Frank army to this serious defeat in question, when it was out of Arab territory and was feeling in full safety. It should probably combine this story of Arab historians with that of the Frank historians, and admit that Muslims incited and helped the Basks against Frank Army at Roncevaux Battle. On the one hand, Arab Historians didn't mention in their story the help that Muslims had given to Basks; on the other hand the official historians of the Frank empire presented the expedition of Charlemagne in Spain as much happier than it was. They did not want to admit that the authors of the disaster were at least in part, the "Saracens" - supposed allies of the Franks. The Frank king could not even try to avenge their treachery. They preferred to mention a simple surprise of the Basks. Their impunity was arising from their dispersion in their mountains. This case was a sensitive humiliation for the franc honour.

2. THE EXPEDITION OF FRANK KING CHARLEMAGNE IN MUSLIM SPAIN.

In 777, for the holidays Easter Charlemagne was in Westphalia where he celebrated the great diet of Paderborn during which thousands of defeated Saxons were baptized. In Paderborn Suleiman Al-Arabi accompanied by other Muslims of Spain came to present to Charlemagne; he wanted to be under the protection of the Frankish king againts I. Abdurrahman, Emir of Cordoba. *Royal Annals until 801's* don't say why Al-Arabi went to Paderborn; but *Royal Annals until 829's* say that he would deliver to Charlemagne the cities he governed in the name of Saracen king. At the meeting in Paderborn Al Arabi promised particularly in Charlemagne the city of Zaragoza (Ramon Menendez Pidal, 1960). In 778, when Charlemagne was a relatively young king, his army was enlisted to help the Muslim governors of Barcelona and Zaragoza against the Umayyad caliph in Cordoba; he was functioning, essentially, as a mercenary within an Islamic factional struggle (Ann Hoeppner Moran Cruz , 1999).

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The Abbasid dynasty was attempting to annex or destroy the Andalusian Umayyad State in Eastern Europe which was the remaining part of the Umayyad. At that time the situation of Abdurrahman I, Emir of Cordoba was worsening. Indeed, an Abbaside army had just landed on the coasts of Todmir (Murcia); it was commanded by al-Siqlabi, Abbaside commander who had just restored the authority of the caliph of Baghdad against Abdurrahman I. Al-Siqlabi wrote to Al-Arabi, thinking that the latter, since it was in a state of rebellion against Abdurrahman I, would rally to the cause of Baghdad. But the rebel Al-Arabi did not want to depend neither on Baghdad nor on Cordoba. For this reason, Al-Siqlabi had to retreat to Todmir where Abdurrahman I forced him to fight. This war was long and severe. He was killed in Valencia by Abdurrahman's soldiers(Ramon Menendez Pidal, 1960 ; İhsan Süreyya Sırma 2007).

The situation in Muslim Spain was so complicated that Abdurrahman I had difficulty to assure the political unity. In the northern regions of Andalusia, every emir almost wanting to benefit from the chaotic situation and possessing a little power was declaring his independence. Even, there are those who want to seal an alliance with the Frank king Charlemagne (İhsan Süreyya Sırma, 2007). Seeing an opportunity to extend Christendom and his imperial power and believing the Saxons to be a fully baptized, Charlemagne decided to make an expedition to Spain. Suleiman Ibn Al-Arabi, emir of Barcelona induced Charlemagne to invade Andalusia by promising him an easy surrender of its Upper March of which Zaragoza was the capital. Charlemagne didn't make up his mind until the winter, but he finally decided to launch an expedition into the Iberian peninsula the next year. Taking into consideration the alliance of Suleiman Ibn Al-Arabi, Charlemagne passed across the Pyrenees in 778. His troops were welcomed in Barcelona and Girona by Suleiman Ibn Al-Arabi. As he moved towards Zaragoza, his troops were joined by troops led by Suleiman Ibn Al-Arabi. The emir of Cordoba Abdurrahman I sent his most trusted general, Thalaba Ibn Obeid, to take control of the rebellious city and to prevent the Frank invasion. Husayn Al Ansari and Thalaba Ibn Obeid clashed repeatedly; eventually Husayn Al Ansari managed to defeat and to imprison Thalaba Ibn Obeid. Reinforced in his autonomous position, Husayn Al Ansari became reluctant to yield his new privileged status to the Frank king and refused to surrender the city to Charlemagne, claiming that he had never promised Charlemagne his allegiance. He seems to have tried to appease Charlemagne by giving him the prisoner General Ibn Obeid and a large tribute of gold, but Charlemagne was not easily satisfied, putting Suleiman Al-Arabi in chains. After a month of siege at Zaragoza, Charlemagne decided to return to his kingdom (İhsan Süreyya Sırma, 2007).

2.1. The Battle of Roncevaux Pass in Pyrenees Mountains

The battle occurred in the evening of Saturday 15 August 778, causing numerous soldiers among the Frank Army including several most important soldiers and the sack of the baggage, probably with all the gold given by the Muslims at Zaragoza. After their success, the attackers took advantage of the night to flee. According to E Lévi Provençal, after the defeat of Zaragoza, Charlemagne and his army were ambushed by the Basks at Roncevaux pass by marching across the Pyrenees in 778. Frank army was defeated and all of soldiers were almost killed in this battle (E. Lévi Provençal, 1932). In his *Vita Karoli* the histograph Einhard mentions the names of the most important paladins killed among many others: Eggihard, Mayor of the Palace, Anselmus, Palatine Count and Roland, Prefect of the March of Bretagne (Lewis Thorpe, 1969).

The Frank army failed in capturing Zaragoza and was exposed to significant losses at the hands of the Basks. They would only be able to establish the Marca Hispanica a decade later, when Barcelona was finally captured. Zaragoza remained an important Muslim city, capital of the Upper March and later of an independent emirate, until the 11th century. Defenceless Pamplona was captured by the Muslims soon after and held by them for some years, until in 798-801 a rebellion expelled them as well and helped to consolidate the Banu Qasi realm and eventually the constitution of the independent Kingdom of Pamplona in 824.

During Charlemagne's lifetime, none of the Latin sources mentions the Franc defeat at Roncevaux Pass to be an inspiration to the writing of *Song of Roland* which would emerge about four hundred years after this dramatic event. Ann Hoeppner Moran Cruz says:
"Charlemagne appears to have refused to allow anyone, during his lifetime, to mention it. It was, in fact, the only military defeat of his career. The dramatic, unavenged (and unutterable) defeat then entered in the epic song, where the vengeance of the Roncevaux Defeat has been fictively taken. The Christians have their vengeance in the *Song of Roland*, where Charlemagne is described as the conquerant of all of Spain with the exception of Zaragoza." (Ann Hoeppner Moran Cruz , 1999).

However, *Royal Annals until 829's* mention this serious disaster after the death of the emperor:

"At the summit of these mountains Bask guerrillas lay an ambuscade. They attacked against the rear-guard troops of the Frank army by causing a great disorder and noise among them. Although the Franks were more powerful and superior than the Basks from point of view of military equipments, they were unable to fight sufficiently against the Basks because they didn't know the geographical structure of the land and they weren't

accustomed to such a collision. Most of notables peers to whom the Frank king entrusted military equipment and supplies were massacred by Bask guerrillas. The food supply was pillaged and the enemy knowing very well the land fled in all directions." (Ramon Menendez Pidal, 1960).

Arab historical sources also mention this Roncevaux Defeat of Frank army. Ibn Athir reports the following historical information: "By seeing that Hussein Al Ansari didn't open the doors of Zaragoza the king Charlemagne became suspicious of Suleiman Ibn Al Arabi. For this reason he captured and took him to France. At the time when Charlemagne feels in safety after receding Muslim lands, Ibn Al-Arabiya's sons Matruh and Aysun attacked the Frank army and they set free their father. They went back to Zaragoza." (Ramon Menendez Pidal, 1960; Paul Aebischer,1957).

Among Latin sources there is a single narrating realistically the Battle of Roncevaux. This is *Vita Caroli* of Eginhard which glorifies King Charlemagne. Other resources will be based on all Latin and Arab resources. The sole *Royal Annals* having not the desire to alleviate the defeat exposed to Frank army is *Royal Annals until 829's* (Ramon Menendez Pidal, 1960).

According to *Brief Annals of Lorsch* and *Arab Histography* there was undoubtedly Ibn Al Arabi taken as a prisoner in France at the rear-guard troops of Frank army among which there were also hostages given by Abu Sevr, governor of Huesca and other hostages taken at Pamplona (Ramon Menendez Pidal, 1960). The Basks of Pamplona and their Muslim allies especially the guerrillas of Matruh and Ayshun sons of Ibn Al Arabi were waiting in ambush. For this attack it was necessary to make collaboration between Christian Basks and Muslims of northern Spain: Muslims were in need of logistic information of Basks knowing very well these steep slope lands; respectively Basks were in need of the military organizational structures of Muslims. According to *Mettens Annals* this complementary and mutual cooperation caused that Frank rear-guard troop was defeated(Ramon Menendez Pidal, 1960).

3. LATIN AND ARAB SOURCES CONCERNING THE EXPEDITION OF FRANK KING CHARLEMAGNE

The oldest historical sources describing the expedition of Frank King Charlemagne in Spain and Roncevaux Defeat of his rear-guard troop are Latin and Arab sources.

3.1. Latin historiography

Latin historic resources concerning Frank King Charlemagne's expedition in Spain in 778 can be divided into two groups consisting of a series of short Annals. These Latin Annals mention in sum this historical event concerning Charlemagne's expedition in Spain:" Charlemagne enters in Pamplona, arrives before Zaragoza; after having destructed the walls of Pamplona and subjugated Spanish Basks he goes back to France by taking some Arab/Saracen commandants as hostages".

This summary information is mentionned in *Metz Annals until 805's* in the form of the most archaic and original. The clausula texts have been rewritten and augmented in *Metz Annals until 903's* and in *Chronique* of Abbé Region. The most recent form deprived of both clausula texts in question is kept in *Royal Annals until 801's* and rehashed in *Royal Annals until 829's* to which is annexed the story of the defeat of the rear-guard troop of the army of Franks King Charlemagne. This defeat is ignored by all the other Annals (Ramon Menendez Pidal, 1960). The modern historians use only *Royal Annals* but *Metz Annals* offer a real interest.

The short abstract of annual describes that Charlemagne conquested Pamplona, took Saracens hostage, arrived to Zaragoza where he captured and took Suleiman Ibn Al-Arabi to France. This historical information exists in *Lauresheim Annals until 803's, Laurissenses Annals until 817's, Petaviani Annals until 799's* and *Moissiacences Annals until 818's* (Ramon Menendez Pidal, 1960).

It is said that *Short Annals* was reproduced from the *Royal Annals*. They are more different than *Large Annals*. All these *Large Annals* annexed a sentence explaining that Basks and Navarre's obeyed to Frank King Charlemagne. Thus, the reader has the conviction that Pamplona had been seized from Basks, on the contrary *Short Annals* don't mention the name of Basks at all. As *Lorch Annals* stated clearly, they give the conclusion that Pamplona had been seized from Saracens. It is deduced from this statement that that the main hostile target of Frank King wasn't Basks but Muslims named Saracens.

3.2. Arab historiography

Arabic texts concerning Charlemagne's expedition in Spain express this historical event in two manners. The first is related to the delivery of Thalaba bin Ubayd, general of Abdurrahman I, emir of Cordoba, to King Charlemagne. This historical event is told in *Ahbarul Mecmua* (XI. Century), Ibn Al-Athir's (XIII Century), Ibn Khaldun (XIV

century) and other Arabic texts. The second is the story of the capture of Ibn Al Arabi and his rescue by his sons. This story take place only in a text mentioned by Ibn Al-Athir before giving a short information related to Thalaba bin Ubayd.

Most of the contemporary historians don't want to use Arab historiography with Latin historiography in order to handle Charlemagne's expedition in Spain. In his *History of Muslims* (*Histoire des Musulmans*, 1861) R. Dozy benefits only from *Ahbarul Macmua*. In his *Discourse before History Academy* (*Discurso ante la Academia de la Historia / 1879)* F. Codera use Ibn Al-Athir and other Arab texts by annexing the information concerning the attack of the sons of Ibn Al Arabi to Charlemagne's army (Ramon Menendez Pidal, 1960).

3.3. Confrontation of Latin and Arabic historiography

Latin and Arabic texts don't contradict each other when reporting historical data. Any work of historiography is a ruthless selection made by the historian in the confused mass of events; we set aside countless accidental facts to highlight a few significant facts which will be able to put in light the overall conception to be criterion to the historian. Latin historians and Arab historians also highlight important events in terms of their history and their own perspective.

Arab and Latin historical sources, although they have different perspectives, agree to the following four points: 1-Ibn Al-Arabi invites Frank King Charlemagne in Zaragoza to take support for the revolt against Abdurrahman I; 2-King Charlemagne comes in Spain; Suleiman Ibn Al Arabi delivers hostages to him as a guarantee of loyalty; 3-King Charlemagne comes before Zaragoza and takes Suleiman Ibn Al Arabi as prisoner because of his infidelity; 4-Frank King Charlemagne's rear-guard troop ambushed in Basque Region was attacked by the military coalition of Basks and Muslims (Ramon Menendez Pidal, 1960).

4. THE TRANSFORMATION OF THE HISTORICAL REALITY INTO LEGEND IN SONG OF ROLAND

The historical events occurred at Roncevaux Pass survive legendarily in *The Song of Roland*, in which the historical reality had been transformed into legend. Kléber Haedens says:"as in all the chansons de geste, the historical truth seems very ill-treated..."(Haedens, Kléber, 1970). Two centuries after his death, Charlemagne combatting against Muslims in Spain, appears as initiator and hero of the Crusades. Frank king and his peers were considered as the prototypes of Christian Chivalry. Since therefore, the anachronism takes place in this Frank poem: the young king who was 36 old years in 778's became an old king of 200 years old "the white-bearded emperor". He was considered as a living king and an organiser of the Crusades. In his work named *Histoire de la Littérature française*, Gustave Lanson says : "we are far from the history with Saracens who had taken the place of the Basque mountainers, and these pagans, idolators, Saracens, moreover valiant and accomplished "barons", if they were christians: with this white-bearded and two hundered years old Charlemagne, majestic symbol of the christian kingdom. In the period of Charlemagne, France became a religion state. He declared himself that he was the representative of God on the Earth. During his sovereignty, the religion and the State were nested. Thus, the political power became the religious power. Hereinafter, Charlemagne would make war for the Christendom(Charles Benamon, 2000). André Cordier states in this point: "A priori, the constant alteration of the history allows to reject the redaction of the poem longtime after the the event: the distancing in the time explains only this deformation of the historical reality"(André Cordier,1935). The aggressors weren't any more the Christian Basks but Muslim Saracens. The expedition of Charlemagne in Spain became a crusade against Muslims in Spain. Over the years, this battle was mythologized by oral tradition into a great conflict between Christians and Muslims.

The Frank epic - which had begun in the Merovingian period - was in full life until the end of the tenth century. The epic song devoted to Roland - born probably in the Frank Bretagne and then spread through the whole of France - and went through all the Carolingian period. In the XIth century. *The Song of Roland* was translated or adapted everywhere: in Spain, where it aroused the national epic (Cantares Degesta); in Italy, it was popular from the eleventh century, in England, it was adapted in English and even in Welsh; in Germany it had been translated since 1133; in Netherlands it was adapted in prose and in verse; in Scandinavia, it was translated in Norwegian in the thirteenth century; it had been the subject of popular books in Denmark and in Iceland. For Philippe Walter, this epic story is woven with anachronisms and invented characters, artificial or marvellous situations like the miracle of the sun which stops his running.

5. CONCLUSION

In 778 when Charlemagne was a relatively young king, his army was enlisted to help the Muslim governors of Barcelona and Zaragoza against the Umayyad caliph in Cordoba; he was functioning, essentially, as a mercenary within an Islamic factional struggle. For a variety of reasons, the campaign was unsuccessful. On the return home,

Charlemagne's men sacked the town of Pamplona, killing and looting. In retaliation the Basks ambushed Charlemagne's rear-guard in the Pyrenees, killing everyone and making away with the booty from Pamplona. The Franks never revenged for themselves this massacre, and Charlemagne appears to have refused to allow anyone, during his lifetime, to mention it. It was, in fact, the only military defeat of his career. The dramatic, unavenged defeat then entered the realm of the legendary, where vengeance is extracted in legend if not in reality. The Christians have their vengeance in *The Song of Roland* in which the enemies become Muslims rather than Basks.

The Song of Roland illustrates extravagantly and exaggeratedly an ordinary historical event. As it has been read from generation to generation, it seems to cause the historical and cultural hostilities and prejudices between Christians and Muslims. The Saracens became the scapegoat in Europe throughout all the Middle Age. *The Song of Roland* being an epic poem had been written in order to give a historical support to the Crusades and to transform a territorial war in to a holy war. This anachronic poem encouraged and incited to write other works to commove internationally the hostility feelings.

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The Immersion Program:A Case Study Of Internationalization Practice At Sichuan Univeristy

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ABSTRACT
To build itself into a world class university, Sichuan University (SCU) has gone all out to promote internationalization on campus. Its effort has been positively rewarded by the increased number of international teachers, more exchange among students, more joint research programs and better understanding of different cultures. The University Immersion Program (UIP) is a good example of facilitating internationalization on campus.
The Immersion Program, starting from 2012, is an annual summer program that lasts two to three weeks. The University invested about $1 million each year to invite about 150 professors and 500 students from all over the world. Each professor teaches one or two courses for students on campus. At the same time, the invited international students will also join SCU students to complete some on-site practice projects involving trans-culture studies, lab research or socio-economic investigation. Up until now, over 60, 000 students have benefited from the UIP program.
This essay focuses on the case study on the international practice of SCU. UIP has been an influential event in SCU and proved efficient and effective in promoting internationalization on the campus. Through analyse the results of the questionnaires from the 140 foreign teachers and randomly selected 1,000 Chinese students covered all the disciplines of SCU as research subjects at 2014. we attempted to explore the outcomes results of the Immersion Program and its influencing factors. we hope these findings will contribute to the 4th Immersion Program at SCU.

Key words: Internationalization of higher education; Sichuan University (SCU);The immersion program;

INTRODUCTION
Internationalization of higher education has become prominent worldwide. Sichuan University (SCU) is a first-class comprehensive research-oriented university in Western China. SCU targets cultivating students into social elites with profound cultural knowledge, solid specialized foundation, strong sense of innovation, and broad global vision"(The Twelfth Five-Year Guideline of SCU). To achieve this goal, the he University Immersion Program (UIP) was launched, which served as a prime example in promoting internationalization on campus.
Starting in 2012,the UIP was develop from 45 invited foreign professors,54 English courses increased almost three times at 2014 to 140 foreign teachers,183 English courses. The UIP has aroused highly attention from the faculties, students, and the society. The program of 2014, in particular, the Academic Affair Office cooperated with the International Office and colleges singled out 183 professional and general courses taught in English ranging from politics, economy, culture, history, philosophy to a wide variety of professional courses. All the courses were held at Sichuan University campus, and the students could receive official transcript and earn academic credits from Sichuan University upon the completion of the program. Since the scale of the UIP has increased rapidly during the past three years, the UIP of 2014 was the biggest massive mobility of faculties program in current Chinese Universities. The benefit of the UIP should be discussed seriously and scientifically.
The 2014 University Immersion program offered two types of courses: professional courses and general courses. The professional courses brought to the students the latest research in the field; and the general courses were mainly taught by the invited experts in different disciplines on hot global issues.

THE DEFINITIONS
There are multiple definitions of internationalization which manifest the variety of approaches and changes towards the internationalization. In this study, internationalization is defined as the "process of integrating an international and intercultural dimension into the teaching (learning), research and service functions of the institution (Knight, 2004). The complex definition of internationalization suggests that many elements are present in the internationalization process that can either hinder or promote internationalization. Knight (1994) described

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the curriculum as "the backbone of the internationalization process" (Knight, 1994, p6). The internationalized curriculum can provide a student-centered learning experience for all students and prepare students to be successful in today's increasingly interdependent global society.

International curriculum is a strategy which will assist learners to become more aware of their own and others cultures. Because only a limited number of students can enjoy the opportunity of studying overseas or benefit from the university's exchange programs during their university life, it is the responsibility of the university to broaden students' horizons and improve their understanding of the connection between local and the global issues. This could be done by internationalizing the curriculum and promoting interdisciplinary study to provide international perspectives. To serve this purpose, the annual UIP has been developed to arouse the internationalization awareness among students and faculties of SCU.

THE STUDY

Methodology

Students are the main part of the UIP, In order to understand how students and teachers evaluated their learning and teaching experiences in the UIP and assess students' overall satisfaction level, we conducted a study based upon an opinion survey in SCU. During the 3th UIP at 2014, We distributed 1,090 questionnaires among the students, and 947 valid questionnaires were returned, with a response rate of 87%. We distributed 139 questionnaires among the foreign teachers, and 124 valid questionnaires were returned, with a response rate of 89%. In addition to questionnaires, we also conducted interview with some participants of the UIP to learn more details about their experiences with regard to managing the UIP.

Findings

General satisfaction towards UIP's arrangement

The interviewer's opinion and questionnaire data showed that the students held positive attitudes toward internationalization on the whole. When asked how they evaluated the course arrangement of the UIP, more than half of the students (54.7%) considered the arrangement of UIP was relatively appropriate and the curriculum could meet their needs for study and interests. Only about 3% of the students were not satisfied with the arrangements. This was probably because they chose the inappropriate professional course that not suitable for them. The majority feedback showed the UIP promoted cultural awareness, improved open mindedness, and capacity of critical thinking.

The evaluation of teaching method and content

With regard to teaching methods and teaching strategies, we found that multi-disciplinary and group coorperation were the main feature of the teaching especially the general courses. That encouraged students to learn with multiple perspectives—not only from the point of few of the discipline itself, but from a cross cultural point of view as well. The general courses encouraged collaboration among students of different disciplines and students from other countries with an international focus. Such collaboration built capacity of critical thinking that shaped learning, making assumptions and options of gaining knowledge. Many students found the teaching method is suitable for them, but there also has some students find they can't adapt to the method of foreign professors due to the lack of their language ability.

With regard to the compilation of teaching contents, we found that the students were generally satisfied with the teaching contents adopted by the invited professors. Nevertheless, students whose English was not sufficient suggested the presence of a professional Chinese teachers to translate and explain the course if it was taught in English.

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Table 1 Satisfaction level of students towards the University Immersion Program 2014 in Sichuan University (n=947)

	Very Satisfied	Satisfied	Neutral	Unsatisfied	Very Unsatisfied	Total	Missing	Total
Teaching Attitude	545	323	26	2	0	896	51	947
	60.80%	36%	2.90%	0.20%	0	100%		
Teaching Method	375	466	52	2	0	895	52	947
	41.90%	52.10%	5.80%	0.20%	0	100%		
Teaching Content	88	384	276	132	16	896	51	947
	9.80%	42.90%	30.80%	14.70%	1.80%	100%		
General Satisfaction	161	490	217	21	7	896	51	947
	18%	54.70%	24.20%	2.30%	0.80%	100		

As we can see from the table1,the percentage of the general satisfaction of the 3th UIP is more than 70% of all the participants. Teaching attitude, teaching method, teaching content are closely related to the satisfaction of UIP. Except these three elements ,there are some other support factors contribute to the success of the UIP.

Powerful support from the president for promoting internationalization

The leadership from the top is an essential factor in making internationalization sustainable (Green and Olson,2003; Knight,2004).The current leader of SCU has made explicit commitment to internationalization which is crucial to advancing the UIP. In particular, the president of SCU once promised that "every student of Sichuan University would have, at least, one opportunity of international exposure". The implementation of the UIP has demonstrated that university internationalization can be effectively advanced when an international strategy is established on campus and its program is run under the leadership of the university president. This will keep the internationalization efforts sustainable and allow for incremental modifications in terms of values, beliefs, practices, and secure financial assistance where needed.

Financial guarantees for internationalization

The SCU invested about $1 million each year to invite 150 professors and 500 students from all over the world to participate in the UIP. Each professor teaches one or two courses on campus, will be compensated financially for their two-week stay in SCU. To support the development of the UIP ,it need a stable funding base to ensure the continuous, organic operation. SCU set up dedicated budget and policy document to ensure the finance support from the university. The Colleges in SCU are also committed to the UIP by holding a diversity of activities or lectures with an international flavor. In this sense, the whole university is involved at the individual, college and university levels.

DISCUSSIONS

The impact of the UIP is very broad and deep. Except the benefits for students, the UIP also influenced the other aspects of SCU. The primary purpose of this survey was through gathering comments and suggestions from a sufficient number of students and professors to analysis and understand UIP's effectiveness. During the interview with faculties, we got more information than we expected

Strengthening internationalization of faculty in SCU

According to the research, faculties and students demonstrated a positive view towards UIP as a means to educating global citizens. In contrast to the limited international exchange programs aboard, the UIP of SCU expands opportunities for faculties and researchers to learn and communicate with foreign professors without going aboard. The domestic faculties in SCU will also be influenced on the teaching and learning activities in much more profound ways through take part in the UIP. The UIP can certainly be one of the most significant instruments for developing a more internationalized faculty and students as well as promoting an internationalized campus ethos. The 4th UIP at 2015 will make more endeavors to encourage involvement of SCU faculty in the internationalization of curriculum.

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Attracting more foreigners and international cooperation

The ratio of foreign faculty members and the international students are important indicators for evaluating the development of the internationalization of university. The UIP is an excellent chance for the foreign professors and students to know more about SCU and it also helps future policy-making by evaluating the university's international status. Nearly half of the professors(48%) thought that the UIP was organized well and the atmosphere, the accommodation etc. met their needs. Moreover, 38.5% of them would like to be full-time teachers in SCU. All the professors and teachers are the potential candidates for the future talents acquisition program.

At the same time the UIP is one of the best opportunities to share information of this good practice, thus promoting the profound influence of SCU in the world. It contributes to fostering friendship and to enhancing the cooperation among the educators and students and building up the confidence of further cooperation.

Comprehensive international strategies have been devised at the university level, and an effective system needs to be established at the college level to evaluate faculty involvement in international program administration. Therefore, it is necessary for the faculty to share their understanding of the goals and objectives of the internationalization programs. The policy-makers should make adjustment based on current practice.

Changes in these two areas will certainly further SCU's internationalization efforts and position in the Internationalization. It is desired that these suggestions will serve as a starting-point for conversations among the different stakeholders within the university.

CONCLUSIONS

The UIP is an ongoing, multifaceted process that requires the collaboration and support of faculty members, students, departments of the university. One of the greatest challenges is bringing together large numbers of faculty from diverse disciplines to collaborate towards the same goal. The UIP that started in 2012 is still in the initial stage and needs continuous improvement and development.

Given that the Office of International Affairs has taken on the main task of UIP's organization, it seems effective and efficient to emphasize the role of colleges. The colleges have the potential to become the core for internationalization through targeted measures to accelerate the internationalization of each discipline. Furthermore, the colleges involved are responsible for monitoring of the internationalization process and making sure the internationalization efforts are sustained. The summer of 2015, which marks the 4th Immersion Program at SCU, will achieve better outcomes.

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The Implementation Of School Bullying Policies From Administrators' Perspectives

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ABSTRACT
School bullying is a problematical issue that has gained international attention over the last several decades. Numerous governing bodies across the globe have adopted bullying prevention and intervention measures in schools in an attempt to neutralize bullying in schools and create safer learning environments for students. This paper presents results of an impact study of school climate and bullying in Ontario, Canada, following the adoption of Bill 13 – The Accepting Schools Act. Qualitative interviews were conducted amongst 39 school administrators in the Canadian provinces of Ontario and Saskatchewan in order to examine how bullying policies are implemented and carried out in their schools. The results present the following: the data collection process that precedes and follows policy implementation, the perceived effects of policy implementation, as well as administrators' perceptions of their roles in countering school bullying.

INTRODUCTION

Every child has the fundamental right to feel safe at home, at school, and in the community (United Nations, 1990). Experiencing bullying is not a necessary rite of passage during the course of a child's life. Research has shown that bullying behaviors are not typically resolved on their own and could even exacerbate if they are left untreated (Coloroso, 2015; Rigby, 2012). Accordingly, bullying must be targeted directly. Common bullying prevention and intervention approaches consider that adults and other members of the school and community should support the child who is being bullied, the person who is perpetrating the bullying, as well the bystanders who are uninvolved in bullying incidents (Coloroso, 2015). Mishna (2012) further indicates that bullying prevention and intervention measures should target the ecological system surrounding the individuals involved in bullying behaviors. While varied elements are identified by scholars as being conducive to countering school bullying, research supports that bullying intervention is more efficient when undertaken from a holistic perspective, namely by members of the school community and of the community as a whole (Guerra, Williams & Sadek, 2011; Mishna, 2012; Olweus & Limber, 2010). The first step towards addressing school bullying is therefore to endorse a positive and systemic change in the school community. In recent years, in fact, numerous governing bodies around the globe have adopted legislation which mandate bullying prevention and intervention endeavors in schools through an ecological framework.

BACKGROUND

The current study follows a widespread initiative undertaken in 2010 to review initiatives, action plans or official anti-bullying policies in all Canadian provinces and territories. The authors initially compared these initiatives to practices commonly recognised by researchers as contributing positively to reducing bullying in schools. The conclusions of the first stage of the study uncovered the determination of Canadian ministries of education in sustaining and supporting school networks in their bullying prevention and intervention efforts. The results revealed elevated levels of conformity between the initiatives developed by Canadian provinces and territories and promising anti-bullying practises (Beaudoin & Roberge, 2013).

For the second phase of the project, two school boards in Ontario provided the research team with data relating to school climate surveys conducted amongst 3073 students representing 32 elementary schools and 8 secondary schools. Student participants were invited to complete surveys regarding bullying behaviors to which they may have been exposed throughout the year as well as general questions relating to the school climate. Results from this second phase reflected student perceptions of their lived experiences at school, including whether they had been victims of bullying, perpetrators of bullying, or whether they had witnessed bullying without intervening.

Next, the research team analysed the extent of the application of the official Canadian policies, as perceived by members of the school community who are responsible for interventions amongst students. In this fourth phase, an impact study of the action plans implemented by schools in response to Bill 13 was conducted. The objective was not to assess or to make a judgement on the value of the initiatives, but rather to document the changes that were determined to be significant by the individuals responsible for the operation of the anti-bullying policies in Ontario schools. The research team also interpreted their perception in regards to the development and implementation process of their school anti-bullying action plans and their roles as agents of change in countering

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bullying. Their perception of their role in countering school bullying, promoting social justice and pedagogical equity in the classroom and appreciating the short-term educational implications of these factors was also undertaken during this phase of the study. The results allowed the research team to determine that individuals who are responsible for students recognize the importance of involving the broader community in anti-bullying endeavors. They also mention that schools must be aware and must welcome input from the broader community, should target long-term objectives and should nurture positive relationships with community partners in bullying prevention and intervention initiatives.

The purpose of the current study was to further explore the accounts of the same participants who were interviewed in the preceding stage of the study. The objective was to examine the educational methods that were put in place to create and maintain a positive school climate, as well as the strategies employed to prevent and manage student bullying behaviors. More specifically, the research team explored: the participants' definition of bullying behaviors; their strategies to report and react to bullying; ways to support victims of bullying, perpetrators of bullying, and bystanders who witness bullying behaviors, and; the documentation of bullying behaviors in their schools. As a reminder, these reports were collected from individuals who sit on committees responsible for student safety through semi-structured qualitative interviews.

THEORETICAL FRAMEWORK

Ontario Bullying Prevention and Intervention Legislation

The current study was conducted in the province of Ontario, in Canada, and entails an impact study of Bill 13 – The Accepting Schools Act (2012). This legislation contains numerous anti-bullying elements such as the addition of mental health workers in all schools, the inclusion of equity and inclusive education curriculum, an action plan representing the roles and responsibilities of all members of the school community when bullying occurs, as well as the creation of a school committee responsible for student safety (OME, 2012a). Another notable section of Bill 13 is that schools must adopt bullying prevention and intervention strategies, while encouraging a safe and positive learning environment contributing to student learning and achieving their full academic potential. New revisions to Bill 13 by the Ontario Ministry of Education specify that members of the school community must report all behaviors that could provoke a suspension or expulsion to school principals, who are then required to communicate with parents of the students involved. Administrators who are made aware of bullying have an obligation to act on the report by enlisting the assistance of personnel to support victims of bullying, perpetrators of bullying and uninvolved witnesses. All incidents that could have a negative impact on the school climate must be acted upon. The goal is to help students develop caring interpersonal relationships with their peers.

The Accepting Schools Act (2012) has further adopted Policy/Program 144 (OME, 2012b), which stipulates that school administrators should promote and actively reinforce positive student behaviors through character education programs. They must also ensure that parents and members of the community are participating in the school life so that they may support students who are directly or indirectly involved in bullying. In support of these stipulations, Swearer et al. (2009) mention that a comprehensive anti-bullying policy must be accompanied by a number of elements of implementation in order to be successful. Some of these elements could include the identification of values that promote student well-being, the development of anti-bullying endeavors that contain support from the school community, parents and community partners, as well as anti-bullying training for all individuals who interact with students in the school setting, as well as the evaluation of the effectiveness of the policy. By all evidence, developing a bullying prevention and intervention policy will not automatically reduce school bullying. An impact study of the implementation of the policy from the perspective of the administrators who operationalize its guiding principles in schools would further clarify optimal bullying prevention and intervention practices. As such, given that the Accepting Schools Act (2012) has been implemented and put into practice, the Ontario context is ideal for the study of the practical application of anti-bullying endeavors in schools.

Bullying Prevention and Intervention Research

With the widespread recognition of the detrimental impacts of involvement in bullying, there is now an extensive body of research on its' prevalence, concomitant factors, as well as information pertaining to successful education, prevention and intervention programs (Mishna, 2012). The theoretical framework of the current study is grounded in the pervasive bullying literature pertaining to how it appears to have been interpreted and put into practice by Ontario schools. More specifically, the authors of the current paper address how bullying is defined in the literature, how bullying should be reported and documented, as well as action plans to counter bullying and intervene amongst individuals involved in bullying incidents. The themes developed in a later section reflect these areas of interest.

First, it is important to mention that, while there is no research unanimity on a precise definition of bullying, certain elements are widely reported as being common elements of bullying. In a general sense, Rigby (2008, p. 21)

defines bullying as the "systemic abuse of power in interpersonal relationships". Other researchers note that bullying is an aggressive behavior that is carried out recurrently and represents an imbalance of power, where the perpetrator (or perpetrators) has/have an advantage of power (Craig, Pepler & Cummings, 2013). Researchers mostly agree that bullying involve an aggressive behavior in which harm was caused, or for which there should be reasonable recognition that the behavior would be harmful (Rigby, Smith & Pepler, 2004). There is also increasing agreement in the research community that bullying is a relationship problem (Swearer, Espelage & Napolitano, 2009; Craig et al., 2013). Different types of bullying are also identified in the research literature, namely: physical bullying, verbal bullying, social bullying, cyberbullying, and bullying based on a variety of real or perceived differences between individuals (ex. gender, race, religion, socioeconomic status, sexual orientation, etc.).

Reporting bullying is an important consideration where efforts are undertaken to address this issue (Swearer et al, 2009). A common challenge associated with bullying intervention is that students who are victimized by bullying are reluctant to report it due to a fear of reprisal or of the resultant consequences (Coloroso, 2015; COPA & OTF, 2012; Swearer et al., 2009). Where students are equipped to safely report bullying within their school community, there is an increasing likelihood that successive interventions will take place, as administrators may otherwise be unaware of the occurrence of bullying. The documentation and follow-up on bullying appears to ensue from the reporting, and some researchers even caution that reporting alone is weak in the absence of a subsequent action plan to address bullying.

In terms of averting aggressive behaviors, research proposes that interventions should first be preventative and based on educational strategies that are embedded in daily routines (Coloroso, 2015; Debarbieux & Fotinos, 2012) within a positive global approach (Olweus, 1993). Some studies advocate for educational methods that target relationship behaviors between students that imply that decisions taken in regards to these behaviors take into account what is already expected of them in other contexts (Craig, Pepler & Cummings, 2013; Steinberg, Allensworth & Johnson, 2011). There is also consensus in bullying prevention studies in terms of the most effective ways to avoid and react to bullying in schools, which is based on an approach that is more educational than punitive (Craig et al., 2013; Coloroso, 2015). This approach proposes that students must learn to live together and should be guided and encouraged to develop prosocial behaviors (ex. mutual assistance, empathy, altruism, etc.). Moreover, students should learn to resolve conflicts constructively and to repair the harm they have caused where it applies, as well as learn to accept and respect diversity. It is also important for students to learn to adequately express negative emotion, given the fact that these emotions could explain why some students bully others (Dixon, 2011). Many researchers also support the notion that bullying prevention and intervention programs should extend beyond the individuals involved to include members of the broader community (Coloroso, 2015; Rigby, 2008; Swearer et al., 2009). Furthermore, these programs should be based on an evaluation of the needs of the school, on the perceived benefits to the school population, on comprehensive anti-bullying policies that aim to create a positive and caring school culture and on a clear definition of the roles and responsibilities for all who are involved in countering school bullying (Dixon, 2011).

RESEARCH DESIGN AND METHODS

Purpose of the Study

The purpose of the current study was to gather statements from school administrators and members of teams responsible for student safety in Ontario in regards to the strategies and measures employed to create and maintain a positive school climate, as well as their approaches when addressing bullying behaviors. More particularly, the authors of the current paper have studied how school administrators define bullying behaviors, how these behaviors are reported and treated, and how schools are helping victims of bullying, perpetrators of bullying and witnesses to bullying incidents, as per their anti-bullying policies. Individual administrator viewpoints were collected during semi-structured qualitative interviews.

Design

The research design utilized to study the nature and content of anti-bullying strategies in schools was inspired by Checkland & Scholes' (2007) Soft Systems Methodology, as applied to problematic educational situations undertaken by several authors (Donnadieu & Karrsky, 2002; Lapointe, 1996; Morin, 2005). This analytical method is grounded on the dynamic of human activity systems. For the current study, the implementation of an anti-bullying action plan is considered to be a soft system, given the fact that individuals on the front lines of bullying prevention and intervention strategies are best equipped to represent the opinions, perceptions, and values applied in the system (Lapointe, 1996).

Sampling and Procedure

The investigative approach utilized in this paper was summative and considered the interpretations of participants in terms of the impact of initiatives undertaken in their schools to counter bullying following the implementation of their action plan. Ontario's twelve French language school boards were contacted to solicit their participation in the current study. Five boards, who oversee the administration of numerous schools in different geographical areas, consented to participate by referring to school administrators who were also members of their school team responsible for student safety. As such, 39 school administrators, including principals, vice-principals, social workers or teachers in charge of bullying endeavors participated in semi-structured qualitative interviews. These interviews had an approximate duration of one hour and were recorded via Skype or a telephone recording device. Ethical norms in terms of informed consent of participants, in terms of respecting their anonymity and the confidentiality of their individual responses were respected. The authors of the current paper also obtained their consent to cite specific passages from the interviews, yet interview data was considered from a holistic perspective in keeping with the analytical strategy.

The themes presented for categorization of interview responses are as follows:

a) How bullying is defined, and to what extent bullying is differentiated from other aggressive behaviors
b) How bullying behaviors are reported (by victims of bullying, witnesses to bullying and by other members of the school community)
c) The consequences of bullying, including an action plan in the event that bullying persists
d) Strategies to support victims of bullying, perpetrators of bullying, and bystanders
e) How bullying behaviors are documented and who is responsible for the updating of documentations strategies

Data Analysis

Data in this study was analyzed utilizing a thematic content analysis characterized by the grouping of information into categories predetermined by the authors as being representative of significant bullying prevention and intervention elements stemming from the operationalization of policies in schools. First, the interview responses were categorized according to the interview questions/themes by outlining the questions where there was consensus by the respondents and instances where minority opinions were emitted. Varied perceptions were also represented in order to assure an even and complete representation of the colligated information. The objective was not to quantify the different types of responses, but rather to register trends. The results therefore indicate whether trends in participant responses were shared by "a few" (approximately 10%), "a minority" (up to 25%), "a large minority" (25-40%), "approximately half" (40%-60%), "the majority" (60-75%) and "a large majority" (more than 75%). It is also noteworthy to mention that other subjects were broached by the participants and could become the object of further study.

FINDINGS

The interpretation of data is represented from a holistic perspective by considering what is perceived, felt, lived by participants as being important and revealing in determining the value of a bullying prevention and intervention approach. The conclusions stemming from the elaboration of a complete anti-bullying strategy contributed to the reflection of the discussion in this impact study of school bullying in the five boards consulted in the current study (Beaudoin & Roberge, 2015). Table 1 (below) represents the interview themes and the corresponding participant responses in terms of the implementation of bullying prevention and intervention policy components, namely how school administrators define bullying and related behaviors, how bullying is reported and treated, and how schools are supporting victims, perpetrators and witnesses to bullying incidents, as per their anti-bullying policies.

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Table 1

Interview Themes and Corresponding Participant Responses in Administrator Bullying Prevention and Intervention Endeavors

Theme	Characteristic Participant Responses
How bullying is defined, and to what extent bullying is differentiated from other aggressive behaviors	Numerous educational opportunities are offered to teachers and parents, in which bullying is clearly defined. Different types of bullying identified include physical bullying (hitting, kicking, etc.), direct verbal bullying (threats, insults, mean-spirited teasing, etc.), social bullying (spreading rumors, exclusion from a peer group, etc.), cyber-bullying (by e-mail, text message, social media, etc.), homophobic bullying (due to real or perceived sexual orientation, etc.), racial bullying, sexual bullying (unwanted groping or advances, etc.), religion-based bullying and bullying due to physical or intellectual disabilities. There appears to be an over-utilization of the term "bullying" by parents, who often misperceive bullying in disagreements between peers.
How bullying behaviors are reported (by victims of bullying, witnesses to bullying and by other members of the school community)	Students are made aware of the fact that adult members of the school community are concerned with their well-being and will respond to reports of bullying. Reporting of bullying depends on where and how the bullying occurs. A minority of schools have anonymous reporting protocols and strategies in place. These could include a generic e-mail account or a bullying box where students fill out a form describing the date and how the bullying occurred. Some participants question the effectiveness of anonymous reporting strategies and consider that students would prefer to speak to someone directly about their experience. Victims of bullying should report it immediately and refrain from engaging with the perpetrator of bullying. Witnesses of bullying should report the incident to an adult member of the school community, otherwise could exacerbate the situation. Some students are reluctant to report bullying because they fear negative perception of their action by their peers.

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Table 1 (continued)

Theme	Characteristic Participant Responses
How bullying behaviors are reported (by victims of bullying, witnesses to bullying and by other members of the school community)	Teachers or other members of the school community who receive a report of bullying should react immediately. For some cases of bullying, incident reports are completed and filed.
The consequences of bullying, including an action plan in the event that bullying persists	Schools should employ a wide variety of intervention strategies to deal with bullying, which promote positive student behaviors while helping students make good choices. Interventions should vary in accordance to the nature and severity of incidents, as per the provincial progressive discipline policy. The process for carrying out consequences of bullying often occurs as follows: students are made aware of the consequence of their actions, parents are contacted, a written reflection by the student is signed by parents and a restorative measure is assigned. Suspension or expulsion are last resorts for bullying incidents, and are only utilized in cases where student safety is compromised, where a student was seriously hurt, or in cases of persistent bullying. School principals are often responsible for follow-ups to determine if consequences ascribed in bullying incidents were effective. Students, parents, teachers and other members of the school or broader community are often involved in the monitoring process. In cases of extreme bullying, schools sometimes involve local police services to assist in interventions.
Strategies to support victims of bullying, perpetrators of bullying, and bystanders	Members of the broader community, such as social workers, often support students who have been victims of bullying or who are chronic perpetrators of bullying. A variety of strategies to support victims are presented, namely: identifying individuals with which they are comfortable to help them; contacting parents and making them aware of the situation; providing students with strategies to react to bullying (ex. confide in a person with whom they feel comfortable, avoid areas where bullying commonly occurs, avoid retaliation or revenge on the perpetrator, etc.); encouraging participation in activities that could rebuild their self-esteem; recommending that the student refer to outside assistance, such as counselling services.

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Table 1 (continued)

Theme	Characteristic Participant Responses
Strategies to support victims of bullying, perpetrators of bullying, and bystanders	A variety of strategies to support perpetrators of bullying are also identified, namely: involving parents in all stages of the intervention process; utilizing services offered by social workers, educators, and other specialized interveners; presenting potential serious consequences if their behavior persists; teaching social skills.
How bullying behaviors are documented and who is responsible for the updating of documentations strategies	School principals must be informed of all bullying incidents before the end of the school day during which the bullying occurred. Principals are typically responsible for the implementation of a documentation strategy for bullying incidents, and for maintaining the documentation of bullying. Incident reports should be filled out by the individual who has responded when bullying occurred. Principals conduct investigations of all incident reports received. When students receive suspensions or serious sanctions, these are placed into their school record.

DISCUSSION

The first theme addressed the definition of bullying and how it is distinguished from other aggressive behaviors. The reported definitions by the participants are closely linked to bullying typologies identified in the bullying literature. Participants identified a number of common types of bullying as supported by the literature. Establishing parameters of what constitutes bullying is important. Rigby (2008, p. 21) highlights several issues associated with defining bullying "to everyone's satisfaction". Most of these issues revolve around the perception of individuals who are involved in or who witness bullying. For one who is targeted by a perceived aggressive behavior, for example, it may appear to be evident that the behavior constitutes bullying, while the perpetrator of bullying may be apologetic or may not share this perception. In the current study, in fact, many participants specified that there appears to be an overuse of the term bullying, that this term is often utilized as an umbrella for all conflicts between peers in schools. This could be attributed to the fact that bullying is now widely conveyed in the media and there is awareness of the importance of countering it in schools due to the reporting of serious consequences that have arisen from a number of momentous incidents. This finding suggests that discussing what constitutes bullying, and making this definition widely available to all members of the school community is often paramount in schools, as appears to have been the case for the administrators who participated in the study. Some participants note that the issue lies in the fact that bullying information sessions are often poorly attended by parents, for a variety of reasons (ex. personal reasons, unavailability, busy work schedules of parents, lack of parent interest, etc.).

For clarity and succinctness, the second and fifth themes will be addressed jointly. These themes pertained to the reporting and documentation of bullying behaviors. The current study uncovered the fact that reporting and documenting bullying were, in fact, frequently joined. It is important to mention, however, that safe reporting protocols in isolation are insufficient (COPA & OTF, 2012; Swearer et al., 2009). Research has shown that strong reporting procedures should be developed and implemented in schools (Swearer et al., 2009) and that intervention is more likely to occur and be successful where safe reporting protocols are accompanied by clear documentation and follow-up action plans (COPA & OTF, 2012; OME, 2012b). Participants in this study adopted a number of creative ways to report and document bullying. The digital orientation of current societal trends appears to be reflected in bullying reporting and documentation strategies. Electronic forums appear to have replaced the traditional "bullying boxes" in which, for example, students would place paper slips of their reports of bullying. Some of the identified reporting and documentation strategies include creating applications, anonymous e-mail addresses or social media accounts, electronic tracking systems for bullying, and a variety of other electronic means by which to report and track student discipline issues. Some administrators who previously utilized the bullying boxes noted that some students were reluctant to make use of them because they did not want other students to see them placing their paper slips into the boxes. An interesting finding arose from this portion of the data, where one participant indicated that bullying is

not a problem in his school. This is noteworthy, since some degree of bullying has been uncovered in every system in which studies have been conducted. Further probing revealed an absence of reporting protocols in the school (which the participant attributed to the lack of bullying in the school). This appears to support the importance of implementing joint mechanisms to report, document, and follow-up on bullying incidents.

The third and fourth themes addressed the consequences of bullying and follow-up endeavors that are undertaken to ensure that interventions were effective. The school administrators surveyed in the current study mostly subscribe to anti-bullying strategies that are preventative and educative in nature. Almost all participants stated that the intervention once bullying has occurred should be prescribed in accordance to the nature and severity of incidents. These interventions also appear to be mostly restorative in nature, where the intent is for the harm that has been caused to be alleviated, if not repaired. There was a notable absence of reporting of punitive measures ascribed to bullying, with the favored supports appearing to be orientated towards remedial actions, self-esteem development, and strategies to negotiated bullying behaviors to which they may be exposed to or participate in, in the future. The ultimate goal is to make schools safer places to learn. Participants in the current study also reported a wide variety of strategies that are geared towards supporting victims of bullying, perpetrators of bullying, and bystanders who observe bullying, yet are uninvolved. Conversely, the Ontario Ministry of Education's Progressive Discipline policy (OME, 2009) emphasized on the creation of a positive school climate and the promotion of positive student behavior. This policy further enables the principal to select suitable consequences to address inappropriate student behavior, which appears to be strongly reflected in the administrator interventions in the schools surveyed in the current study. Targeting student behavior positively is also identified in the literature as being conducive to creating a positive school climate and effectively countering school bullying (Coloroso, 2015; Dixon, 2011; Mishna, 2012).

CONCLUSIONS

The current study explored administrator accounts of ways that anti-bullying policies are implemented in their schools, in terms of the definition of bullying, the reporting and documentation of bullying, as well as intervention strategies once bullying occurs. The results are promising in the sense that bullying is addressed, to some extent, in all schools considered in the study. New and innovative strategies to report and respond to bullying are emerging in Ontario schools and appear to reflect societal trends on the increased use of technology in the classroom.

It is also noteworthy to mention that language from the provincial policy appears to be widely utilized in schools, and widely adopted to target bullying behaviors. This is reflected in the fact that very few punitive approaches are identified in schools, as these appear to have been replaced by restorative justice measures that promote prosocial behaviors amongst students and positive interactions between students and adults in the schools. All participants recognize that they play an important role, as administrators, in addressing bullying in their respective school. They also recognize that they must act collaboratively with members of the school and broader community in order to render schools safer places to learn.

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The Importance Of Creating A Student-Centered Classroom Atmosphere

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ABSTRACT
This paper reports on a study which investigated *how to create a student-centered classroom and how it influences student to student interaction in L2 (second language) classes*. During the history of English Language Teaching and Learning according to the needs of using the language in a daily life or specific needs such as exams; different kinds of methods has been used so far. Grammar Translation, Audio-lingual, Communicative Language Teaching, Total Physical Response, Silent Way, Community Language Learning, Natural Approach, Suggestopedia, Coopertive Language Learning, Task-based Learning, Content-based learning... e.c. Some of these methods are mainly teacher-centered. For instance, Grammar Translation Method which was started to use in the Middle Ages by church for teaching the language via translating the bible. This method discourages the creativity and speaking skills of the students. Nowadays this kind of methods aren't preferred. On the contrary, student-centered classroom atmosphere is tried to be created to increase student to student interaction. So, teachers' roles are changed. The result of the questionnaires which are applied to the English Preparatory School students and teachers shows that learning in a student-centred classroom atmosphere is one of the main effective factors for being successful at second language learning.

INTRODUCTION
Speaking is one of the most essential skill for using the language effectively. But also it is one of the hardest skills for lots of students. 'As anyone who has tried to communicate in an L2 knows, learners frequently experience problems in saying what they want to say because of their inadequate knowledge. In order to overcome these problems they resort to various kinds of communication strategies. For example, they may avoid problematic items such as the verb 'make' (which, … is exceptional in taking a base form of the verb, as its complement), by substituting an item like 'ask' (which is regular in that it takes to+infinitive and is therefore easier to use correctly). If learners do not know a word in the target language, they may 'borrow' a word from their L1 or use another target language word that is approximate in meaning (for example, 'worm' for 'silkworm'), or try to paraphrase the meaning of the word, or even construct an entirely new word (for example, 'picture place' for 'art gallery' (Ellis, 1997, p.60).

This subject is chosen because after the twelve years of experience in English Language Teaching, it is witnessed that especially Turkish students can not speak and use the language appropriately. During the Erasmus Staff Mobility in Lithuania the same situation is recognized among Turkish students in Vilnius Educational Science University. Even if Turkish students are quite good at grammar rules, they can not express their feelings in English. So, there should be a reason or reasons for this speaking problem. It is inevitably true that teachers teach the foreign language how they learn. For these reasons to understand the teachers' and students' point of views, it has been prepared two questionnaires which have parallel questions. One of the questionnaire is for the students and the other one is for the teachers. Today teaching has changed from lecturer-student to student to teacher and student to student interaction. Now teacher is a facilitator, monitor and a link in the chain in a team work. The role of the teacher is that of facilitator and guide, not an all-knowing bestower of knowledge. Students are therefore encouraged to construct meaning through genuine linguistic interaction with others. (Brown, 2001, p. 43)

After the comparison of teachers and students' answers and correlation of each questions show the inner side of the iceberg which are the real beliefs of the teachers and students in a classroom atmosphere. Nowadays, communicative teaching approach is one of the most popular method all over the world. 'From the mid-seventies the key concept that has epitomized the practical, theoretical, and research preoccupations in educational linguistics and language pedagogy is that of communication or communicative competence. The term 'communicative competence', first used by Hymes in deliberate contrast to Chomsky's 'linguistic competence', reflects the social view of language which has found increasing acceptance since the middle of the sixties.' (Stern, 1983, p.111) This method is based on improving communicative competence. One of the major factors of communicative language teaching is creating a student-centered classroom atmosphere. In order to encourage the students to use the speaking skills, teachers should limit teacher talking time (TTT) and increase student talking time (STT). This gives an opportunity to students to practice the language more. 'Active learning is anything course-related that all students in a class session are called upon to do other than simply watching, listening and taking notes.' (Felder & Brent, 2009, p. 2). Another way of creating a student-centered classroom atmosphere is eliciting the answers from students. Otherwise teachers may spoon-feed the students unconsciously. The importance of creating a student-centered classroom atmosphere has been recognized as the key point for

communicative success. When the students feel the joy of learning and be the captain of their learning process, they also start to learn and question outside the classroom. So, never ending process, life-long learning starts. 'Student-centered learning environments evolved as a result of shifting beliefs and assumptions about the role of the individual in learning.' (Hannafin&Land, 1997, p.170).

THE STUDY

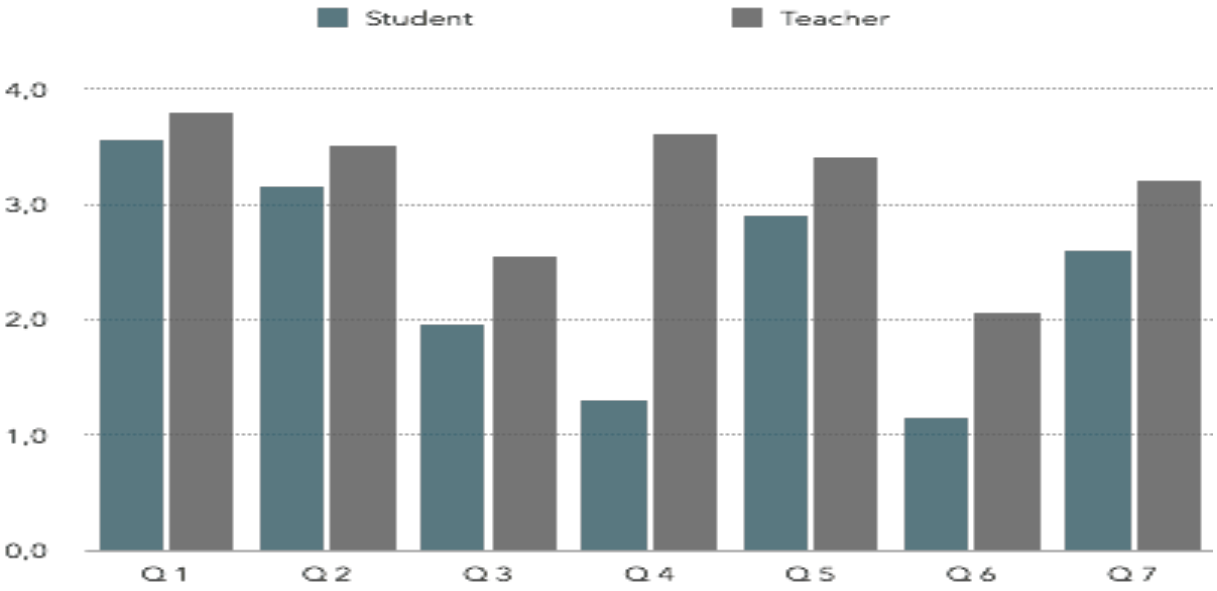
This study aims to find out the importance of creating a student-centered classroom atmosphere and the ways of creating it. In order to identify students' and teachers' beliefs on creating a student-centered classroom atmosphere, two different questionnaires were designed and used. The study was carried out with 80 participants. 40 Istanbul Aydin University Preparatory School students which were randomly chosen and 40 colleagues who are teaching at Istanbul Aydin University Preparatory School. 40 students answered the student questionnaire and 40 teachers answered questionnaire for the teacher. The obtained data was analyzed by utilizing quantitative analysis to investigate whether there is a relationship between students' and teachers' thoughts. This study also aims to investigate the following research questions:

1. How can a teacher create a student-centered classroom atmosphere?
2. Is there a significant difference between students' and teachers' beliefs?
3. Why is it important to create a student-centered classroom atmosphere?

FINDINGS

In this study, according to quantitative data collection and analysis, in some points some significant differences recognized between students' and teachers' point of view about the classroom atmosphere. Percentages were taken for every item and interpretations are written under the every question.

Table 1. Correlation of Students' and Teachers' Questionnaires (Questions 1 to 7)



Question 1- Sts Questionnaire: I can learn better when I join the lesson actively. / T Questionnaire: Students learn better when they join the lesson actively. →As it is shown on the graphic there is no significant difference between students' and teachers' answers. They both agree that sts should join the lesson actively.

Question 2- Sts Questionnaire: When I make a project with my classmates, I feel that I can learn new things. / T Questionnaire: When students make a project with their classmates, they can learn new things from each other. →As it is shown on the graphic there is no significant difference between students' and teachers' answers. They both agree that team work and participation is important.

Question 3- Sts Questionnaire: I prefer peer correction instead of teacher's correction because I feel more comfortable. / T Questionnaire: Peer correction is better than teacher correction because the students feel more comfortable. →As it is shown on the graphic students aim to be corrected by the teachers rather than their peers. The students may feel that they are going to be humiliated by their classmates when they make a mistake. This increaces teacher talking time which is opposite to the learner-centered classroom atmosphere.

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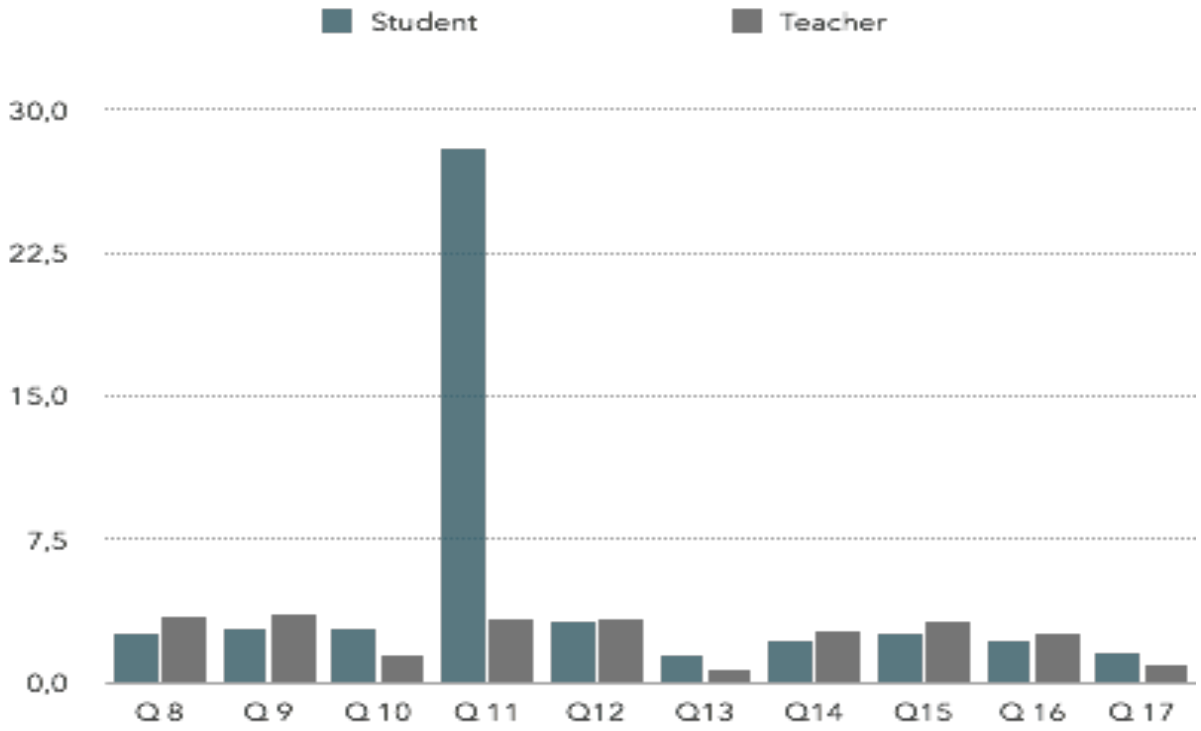
Question 4- Sts Questionnaire: I feel bored when the teacher talks too much during the lesson. / T Questionnaire: Students feel bored when the teacher talks too much during the lesson. →As it is shown on the graphic students aim to listen to the teacher instead of expressing themselves via speaking. There is a significant difference between students and teachers thoughts about this question.

Question 5- Sts Questionnaire: When we create dialogues with role-plays I enjoy and use my English effectively. / T Questionnaire: When the students create dialogues with role-plays they enjoy and use their English more effectively. →As it is shown on the graphic there is no significant difference.

Question 6- Sts Questionnaire: I do not understand anything when the teacher writes the grammar rules directly on the board. Ex: Present Continuous Tense: am/is/are +Ving / T Questionnaire: Students do not understand anything when the teacher writes the grammar rules directly on the board. Ex: **Present Continuous Tense: am/is/are +Ving**→ As it is shown on the graphic Turkish students aim to see the grammar rules instead of trying to learn it indirectly by using it orally.

Question 7- Sts Questionnaire: I should speak more than the teacher during the leson to improve my language./ T Questionnaire: Students should speak more than the teacher during the lesson to improve their language.→ As it is shown on the graphic Turkish students do not want to speak more than their teacher during the lesson which decreases the student talking time.

Table 2. Correlation of Students' and Teachers' Questionnaires (Questions 8 to 17)



Question 8- Sts Questionnaire: I feel unprepared when the teacher starts the lesson directly. It is better to do some lead-in activities such as talking about daily life, listening a song, watching a short video or playing a game./ T Questionnaire: Students feel unprepared when the teacher starts the lesson directly. It is better to do some lead-in activities such as talking about daily life, listening a song, watching a short video or playing a game. →As it is shown on the graphic there is no significant difference between students' and teachers' answers. Even if lead-in activities can be used as an ice-breaker, neither the students nor the teachers are not interested in lead-in activities.

Question 9- Sts Questionnaire: Before we start an exercise teacher should give clear instructions and should monitor us instead of involving directly. / T Questionnaire: Before an exercise teacher should give clear instructions and should monitor the students' participation instead of involving directly. →As it is shown on the graphic there is no significant difference between students' and teachers' answers. In a student-centered classroom atmosphere and communicative language teaching teacher should be a facilitator during the lesson. But according to the data from the analyse nobody wants to see the teacher as a monitor. Both students and teachers want to see the teacher as a lecturer in the class.

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Question 10- Sts Questionnaire: Teacher should give the Turkish meaning(s) of new vocabulary. / T Questionnaire: Teacher should give the Turkish meaning(s) of the new vocabulary. →As it is shown on the graphic students do not aim to learn the Turkish meanings of the vocabulary more. Instead of giving the Turkish meaning of a word which is a kind of Grammar Translation Method, teacher should use synonyms, antonyms, flashcards…e.c to elicit the meanig of a word from the students.

Question 11- Sts Questionnaire: I can remember my prior knowledge when the teacher elicits answers from us. / T Questionnaire: Teachers should elicit the answers from students to encourage them to use their prior knowledge. →As it is shown on the graphic there is a significant difference between students' and teachers' answers about eliciting. In fact, eliciting the answers from students is one of the key points of creating a learner-centered classroom enviroment. It is a kind of brainstorming for students which forces them to use the language and their prior knowledge. The reason why teachers are well-prepared before the lesson and want to share their knowledge with their students; the lesson may change into answering all the questions by teachers and a kind of showing off like a performer on the stage. Weimer have referred to this situation as 'Learner-centered teachers are guides, facilitators, and designers of learning experiences. They are no longer the main performer…'(Weimer, 2002, p.18)

Question 12- Sts Questionnaire: When my teacher encourages me to speak I feel more self-confidence. / T Questionnaire: When a teacher encourages the students to speak English, students feel more self-confident. →As it is shown on the graphic sts and teachers have both the same answers. Teachers' support, encourages students self-confidence.

Question 13- Sts Questionnaire: Without speaking and just listening to the teacher I can learn more. / T Questionnaire: Without speaking and just listening to the teacher, students can learn more. → As it is shown on the graphic neither the students nor the teachers do not accept this point of view.

Question 14- Sts Questionnaire: When the teacher points me and asks question(s) directly I may feel nervous. T Questionnaire: When the teacher points at the student and asks question(s) directly, the student may feel nervous .→ As it is shown on the graphic students does not feel nervous about this situation.

Question 15- Sts Questionnaire: When I interact and ask questions to my classmates, I feel more comfortable. / T Questionnaire: When students interact and ask questions to each other, they feel more comfortable. →As it is shown on the graphic Turkish students prefer teacher-student interaction instead of student-student interraction which causes less speaking between each other.

Question 16- Sts Questionnaire: I like doing presentation because this boots up my self-confidence and I see that I can use the language. / T Questionnaire: Students like doing presentations because this boots up their self-confidence and they see that they can use the language.→As it is shown on the graphic Turkish students do not prefer productive activities such as presentations. Students generally fear public speaking.

Question 17- Sts Questionnaire: Grammar is more important than speaking. T Questionnaire: Grammar is more important than speaking.→As it is shown on the graphic both the teachers and students are aware of the importance of the speaking competence.

CONCLUSIONS

The result of the study revealed that teachers and students have the same idea about some points such as joining the lesson actively, making a project with classmates provides learning new things, creating dialogues and role-plays…e.t.c. But there are some points that teachers and students totally disagree such as eliciting the answers from students, TTT (teacher talking time), writing the grammar rules directly on the board.

To create a student-centered classroom atmosphere, communicative language teaching method and materials should be used to raise students' participation and speaking. In communicative language teaching, communicative competence is the main goal. So, during the lesson task-based, text-based and especially authentic materials should be used. In a communicative exercise there should be a subject which allows students to speak more. Otherwise artificial lesson structures will not fit the real life situations. For instance:

Exercise 1 Question: Fill in the blanks with the correct usage of 'to be'.
She _____ (am/is/are) an accountant.
This is a quite mechanical, based on grammar structure repetition and not a real life exercise.

Exercise 2 Question: Fill in the dialogue with the appropriate word.
Jurgita: I have a toothache.

Zeynep: You should see a _____ immediately.
This exercise might have been seen more logical but it is not quite communicative.

Exercise 3 Question: Ask your classmate about three things he/she takes into consideration when buying a new clothes. This exercise can be considered as an example of an authentic material and a real life situation.

'The aim of a communicative activity in class is to get learners to use the language they are to interact in a realistic and meaningful ways, usually involving exchanges of information or opinion. (Scrivener, 1994, p. 152)

Not only exercises during the lesson but also assignments should be creative. Projects can be given to encourage students to brainstorm and have team work activities. At the end of the assignment students can use their speaking ability while presenting their work.

SUGGESTIONS FOR FURTHER RESEARCH

To sum up, on the basis of the data, not only students but also teachers should consider and renew their teaching and learning beliefs. To solve the Turkish students speaking problem, English teachers can be educated in a communicative way during their university education. The present study was carried out with a limited number of participants with a quantitative data collection. In the further studies, more participants from different universities can be involved and not only quantitative but also qualitative data can be used to analyse the subject in more detail.

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Appendix A

The Student's Questionnaire

Overview

This questionnaire is prepared to analyse the students' learning needs and the effects of student-centered classroom atmosphere. Please fill in the information below about you and tick the most suitable answer for you.

Name-Surname:
Class:
Degree/Non degree:
Level:

0= Totally disagree 1=Disagree 2=Maybe 3=Agree 4=Absolutely agree

STATEMENTS	Totally Disagree	Disagree	Maybe	Agree	Absolutely Agree
	0	1	2	3	4
I can learn better when I join the lesson actively.					
When I make a project with my classmates, I feel that I can learn new things.					
I prefer peer correction instead of teacher's correction because I feel more comfortable.					
I feel bored when the teacher talks too much during the lesson.					
When we create dialogues with role-plays I enjoy and use my English effectively.					
I do not understand anything when the teacher writes the grammar rules directly on the board. Ex: **Present Continuous Tense: am/is/are +Ving**					
I should speak more than the teacher during the leson to improve my language.					

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I feel unprepared when the teacher starts the lesson directly. It is better do do some lead-in activities such as talking about daily life, listening a song, watching a short video or playing a game.					
Before we start an exercise teacher should give clear instructions and should monitor us instead of involving directly.					
Teacher should give the Turkish meaning(s) of new vocabulary.					
I can remember my prior knowledge when the teacher elicits answers from us.					
When my teacher encourages me to speak, I feel more self-confidence.					
Without speaking and just listening to the teacher I can learn more.					
When the teacher points me and asks question(s) directly I may feel nervous.					
When I interact and ask questions to my classmates, I feel more comfortable.					
I like doing presentation because this boots up my self-confidence and I see that I can use the language.					
Grammar is more important than speaking.					

THANK YOU VERY MUCH FOR YOUR PARTICIPATION

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The Teacher's Questionnaire

Overview

This questionnaire is prepared to analyse the teachers' thougts about student-centered classroom atmosphere. Please fill in the information below about you and tick the most suitable answer for you.

Name-Surname:

0= Totally disagree	1=Disagree	2=Maybe	3=Agree	4=Absolutely agree

STATEMENTS	Totally Disagree	Disagree	Maybe	Agree	Absolutely Agree
	0	1	2	3	4
Students learn better when they join the lesson actively.					
When students make a project with their classmates, they can learn new things from each other.					
Peer correction is better than teacher correction because the students feel more comfortable.					
Students feel bored when the teacher talks too much during the lesson.					
When the students create dialogues with role-plays they enjoy and use their English more effectively.					
Students do not understand anything when the teacher writes the grammar rules directly on the board. Ex: **Present Continuous Tense: am/is/are +Ving**					
Students should speak more than the teacher during the lesson to improve their language.					

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Students feel unprepared when the teacher starts the lesson directly. It is better to do some lead-in activities such as talking about daily life, listening a song, watching a short video or playing a game.					
Before an exercise teacher should give clear instructions and should monitor the students' participation instead of involving directly.					
Teacher should give the Turkish meaning(s) of the new vocabulary.					
Teachers should elicit the answers from students to encourage them to use their prior knowledge.					
When a teacher encourages the students to speak English, students feel more self-confident.					
Without speaking and just listening to the teacher, students can learn more.					
When the teacher points at the student and asks question(s) directly, the student may feel nervous.					
When students interact and ask questions to each other, they feel more comfortable.					
Students like doing presentations because this boots up their self-confidence and they see that they can use the language.					
Grammar is more important than speaking.					

THANK YOU VERY MUCH FOR YOUR PARTICIPATION

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The Improvement Of Teaching And Learning In The Course "*Da'wah* Roduction In Electronic Media" Through Scripts And Hosting

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ABSTRACT
"*Da'wah* Production in the Electronic Media" is a course taught to the second year student at the Department of Da'wah and Leadership, The National University of Malaysia. This course concerns mainly with the production on the television related to *da'wah*. Reflecting to the rapid development of new media, since the second semester of the year 2010, this course has shifted its focus to the production in the YouTube. It covers the production of a documentary of the real issues in the society related to the interests of Islam. This new focus of teaching and learning (T&L) nurtures students with four skills, namely video recording, using software for editing footage, choosing the relevant issues, script writing and lastly the hosting. Indeed, the effort to nurture all these skills in a semester and within a subject is truly challenging. Thus, this course has focused extensively on learning by doing for three skills; video recording, software editing and choosing issues. Meanwhile, for two other skills, namely script writing and hosting, the T&L is by giving examples and guidelines at the beginning of the semester. Based on the study of the students of the second semester, year 2012/2013, it is found that 72% of students are satisfied with the current approach while the 28% have a view that a close attention and guide is more needed including for script writing and hosting. Indeed, the skill is a tacit knowledge that is hard to be nurtured only through reading and listening, but it needs a good understanding and continuous practice. This finding indirectly indicates inability of one-third student to nurture those skills by themselves.

INTRODUCTION
The teaching and learning (TL) based on 'learning by doing' such as making the video, public presentation and laboratory experiments are among the effective methods of TL (Maimun Aqsa Roslan, 2005). These types of TL method will guide students with the technical knowledge to the level of execution and evaluation. According to Bloom Taxonomy, execution level is beyond the comprehension level because students do not only understand, but they can do it. These TL activities cannot not only be done in the classroom, but it can be extended to anywhere, as long it is a hands-on activity that could transfer knowledge from "know-what" to "know-how". Besides, it can evaluate the level of student understanding as well as strengthen current understanding of a particular subject.

The integration of four practical activities in the course 'Da'wah Production in Electronic Media' (DPEM) is a new approach of TL in this course since semester 2, 2010/11. It is a course introduced in communication module at the Department of Da'wah and Leadership Studies (JPDK) that focus originally to the production of documentary, drama and lectures on the theme of *da'wah* on television. However, some new approaches have been made in this course by emphasising on the short documentary by covering current and important issues in Muslim society. It nurtures students with at least five skills; using a video camera, using software for editing footage, choosing the relevant issues, script writing and lastly the hosting. In short, this course involves learning by doing that can nurture students to master all these skills effectively. This article discusses the result of students' experiences during enrolling this course in Semester 2, 2012/2013 after some new approaches have been introduced in this course.

The introduction to *Da'wah* Production in Electronic Media
The course "*Da'wah* Production in Electronic Media" (DPEM) has been established since the department introduced three modules in year 2000 namely, communication, counselling and management. These modules indicate the specialization of the studies for undergraduate programme in this department and simultaneously describe a niche area of research. The students have to choose only a module for their specialization commencing

from the third semester and they have to follow this module until the end of the study. According to Idris Endut (2014), the former lecturer of JPDK, prior to the year 2000, students have to choose a certain number of courses without respect to any module to complete their studies. However, by introducing module system, the studies at this department are more organized because the specialization is determined from the beginning.

Basically, the objective of the module of 'communication' is to nurture students with communication skills that can expand the efforts of *da'wah*. According to al-Bayanuni (2005), the communication skills among Muslim activists are truly a need to convey the messages of Islam effectively. There is totally no coercion for non-Muslim to embrace Islam, only Muslims can show people the beauty of Islam and tell the messages of Islam. In Islam, the art of calling people to Islam is called *al-hikmah* as stipulated in al-Quran (16:125) that can be interpreted by art of convincing and influencing during communication. The communication module introduced by JPDK is hopefully can meet the requirement of conveying messages of Islam with *al-hikmah* especially when the development of ICT is emerging increasingly. Theoretical and practical studies should be taught hand in hand to enhance students' skill for the benefit of Islam.

The module of communication in this department consists of eight courses. Students have to enrol all these courses from the third to sixth semester; while in the meantime, they also have to enrol some other compulsory courses from the department and the faculty as well. DPEM is taught in the fourth semester besides of two other courses from this module. It means that the students have been already exposed to some knowledge and skills in the third semester, whereas in this semester they can get more knowledge and develop more skills. According to Undergraduate Handbook (2013), the main objective of this course is to provide students with skills of publishing videos related to *da'wah* as mentioned in the introduction of this course:
This course focuses on the principles and methods in developing da'wah materials for electronic media. It will include the planning, drafting a theme, identifying targets and marketing. The focus will be given to the publication of drama, documentary and advertisement. Practical training in the process of publishing print and electronic media will be held.

The introduction to this course implies that the objective is too wide because it comprises several genres of video including drama, documentary and advertisement. Therefore, commencing from semester 2, 2010/2011 the department decided to focus the studies in DPEM to produce short documentary on issues related to *da'wah*. The idea is inspired from the segment "Investigation" which is a popular segment in channel NTV7 and TV3 that attracted many viewers. The topic discussed in this segment is relevant and the presentation is smart. Throughout this course, students are guided to develop their creativity, combining both theoretical and practical aspects. The practical aspect is an important part to be emphasized here because the success of this course is when students are able to do the task accordingly. From the perspective of T&L pedagogy, this approach can exceed the third Bloom Taxonomy, which is "the application" in which students do not only be able to "know what" but to "know how". According to Bloom Taxonomy, the effectiveness of a TL is when students achieve at least the level of application, but it is good when they are able to do the analysis, then the synthesis and finally, the evaluation.

The nature of the course DPEM is "know how" because it involves at least five practical activities. The first is choosing the relevant issue to be highlighted. The second is shooting video covers the subject matter and the interview with relevant parties. The third is writing the documentary script. The fourth is hosting the segment. The fifth is using software for editing. Actually, combining all these activities in a course is quite tough for non-technical student. They can deliberate the issue, but to use the hardware and software is a challenge to them.

Short documentary on issues related to *da'wah*
The documentary is a nonfictional motion picture intended to document some aspect of reality, primarily for the purposes of instruction or maintaining a historical record. According to Asiah et al. (2009) and Ubaidullah (2008), most documentary films on Malaysian television focuses on aspects of heritage, history, development, education, nature and cultural lifting national personality. Besides, there is still some documentaries focus on practices of Islam and Muslims culture in Malaysia. Indeed, the short documentary on issues related to *da'wah* does not use the narrative genre that covers the real phenomenon related to Muslims. Moreover, it is a critical reflection on the Muslim beliefs and practices in which may contradict with the true teaching of Islam. The critique is targeted to public in general and some individual who may abandon or overlook their duties that lead to breaking Islamic laws and ignore the rights of people. This critical reflection is indeed essential to wake some people who may overlook their duties unconsciously including some authoritative bodies. It is more effective when the presentation uses the reverse psychology because some people might ignore the direct psychology.

The short documentary on issues related to *da'wah* using critical genre is not yet popular in Malaysian Television. Only TV al-Hijrah, which has a segment called "Issues in Islamic Belief" airs once a week, raising some relevant

and controversial issues related to Muslims. This segment introduced in 2013 and it has attracted many viewers because the issues are relevant and controversial such as misunderstanding of the concept of Jihad and the misuse the donation for personal interest. This genre could open the eye of the public, especially Muslim because their current practice of Islam is wrong or their understanding of Islam is incorrect.

Indeed, these issues should be brought to public discussion to avoid misunderstanding of Islam that might lead to political crisis, economic problem and social problem. It is not only related to Islamic belief, but comprises all issues related to misconception of Islam, the abandonment of duties and lack of commitment as a Muslim. If it is for the production in the television, the production team has to think the most relevant issues to be highlighted but it is constrained by some government policies and gatekeeper who may decline to raise this issue for some reasons. However, for the YouTube production, Muslim activists have a broad opportunity to raise all issues and highlight it for public attention. Maybe these issues seem to be unimportant for some people, but from the perspective of those activists some of these issues are important. The new media is a shortcut medium to voice up all these issues for public attention. The public can benefit directly from this documentary and in the meantime, they can give feedback, including if the facts and information presented is wrong or deficient.

New media provides lots of opportunity for Muslims to produce a short documentary due to no or little gatekeeper as in traditional media. They can utilize YouTube to upload this kind of production and benefit from Facebook to spread the production quickly. Since the new media is a must in this modern society, this production can be used not only for sharing information, but also for influencing perception and pressuring authorities. This medium is open to the public without or less restrictions from the authorities. This concept of production in the new media is called *Citizenship Journalism* that is different to *Traditional Journalism*.

CJ refers to the publication via the website can be done by the public in the work of journalism. It includes activities such as blogging about current issues, sharing photos and videos, post your own witness-based on current issues (Allmond Codrington Goode, 2009). It is a term that is given to activities that give the space open to the average person to produce any of their views through new media. In countries that adopt the closed media policy and the system of regulating the freedom of the media, CJ is a medium to be able to speak of the people who oppose Government policies because sometimes the Court media more efficient from the report to the authority party. Therefore, CJ acts as the medium used by the impeller for pressing a particular party to follow their claims. Without the need for labour and high costs, a video can be uploaded for public viewing.

In short, raising the controversial issue in the public sphere is a shortcut approach to raise the public consciousness. It also can be a pressure to the authoritative bodies due to bringing issues to the court, sending the complaint in the online system, or doing public complaint sometime do not work smoothly. There are some technical issues and bureaucracy constrains that may the complaint is fruitless.

The management of the course

Since 2000, the average number of students of the module of communication is 18 students. It is based on the number of sit offered in the department because the seat is around 60. Since the department has three modules, each module consists of 20 students in average. The tabulation of the student is shown in Table 1.

Table 1: Tabulation of the students for DPEM from 2010 to 2015

Name of The Course	2010/2011		2011/2012		2012/2013		2013/2014		2014/2015	
	1	**2**	**1**	**2**	**1**	**2**	**1**	**2**	**1**	**2**
Da^{c}wah Production Electronic Media		29		20		16		17		17

The table shows the average number of students is 20. During the semester 2010/2011 the number of students was 29 because it is a combination between semester 3 and 5 because this course is not offered in the previous semester. In 2011/12, the student intake was higher than next three semesters. At the same time, there are some students who change the module.

Apart from that, when this course taught in semester 2010/2011, the emphasis was given to the skills of making short documentary. Due to the short time to provide students with the skills, students were given two days intensive course to equip them with minimum technical skills especially in handling video camera and using software for

editing. Although some students have been exposed earlier with these skills, this intensive course could standardize all students with these skills. Besides, along with the semester, the students were guided to have a critical reflection to observe the relevant and the current issues about Islam and Malay culture that may contradict with Islam. The students were assigned in three students per group to make a short documentary on current issues related to Islam and Muslims. The evaluation was given to the relevancy of the issues and the quality of the visual presentation in that documentary.

In semester 2011/2012, a little improvement has been made in this course. The students were guided to write the script that critiques the audiences who may abandon and ignore their duties as a Muslim or may have misunderstood about Islam. Various examples have been given to students as a guide to build a good script. Besides, students were given a few guides to be a host as in a real segment based on the script. The task remains as in the previous semester, but the task was divided into two; namely editing footage and making the short documentary. The reason for inserting "editing footage" as a part of the assignment is to ensure the students have the technical skills as a prerequisite to make the video. The task has to be submitted in the first four weeks of the semester. For this semester, the evaluation of the course is more structured because it combines all the skills needed for making the video. 40 marks allocated for the final exam and 60 marks for the assignment. The assessment of the assignment was as follows

Table 2: Types of the Assessment

No	Type	The assessment	Marks
1	Visual presentation	The technique of video shooting	20
2	Choosing the relevant issues	The way of the issue is presented	20
3	Good script	The most criticise is much better	10
4	Good presentation (hosting)	The way host is doing the presentation	10

During the semester 2012/2013, the similar approach was carried out as in the past semester. However, there is a little improvement made in which the editing task was given to each student instead of by group. The reason is to assess all students using the software because editing skill is a fundamental skill in electronic productions. This task should be given individually, not in the group. In semester 2013/2014, the improvement was made to the approach of the study. Normally the theory is taught earlier than the practice, but here the practice is earlier than the theory. The reason is to give students a much time to make the best video because bases in the past experiences the students are hurrying to complete the assignment, especially at the end of the semester they have to prepare a lot the assignment for other courses.

Indeed, this course involves five different skills to be nurtured in a semester. It is quite tough. To harness the skills of recording hardware and editing software, an intensive course is conducted before the beginning of the semester to ensure students have been provided with basic knowledge and skills. Since the technical skill is an intangible knowledge that cannot be transferred by a few sessions of lecture in the classroom, it needs the hands-on activity and continuous practice and training. Therefore, this course combines all skills together to make the sort documentary.

RESEARCH METHODOLOGY

This is a qualitative study using questionnaires to get data from students of semester 2012/2013. The objective of the study is to analyse the feedback of the students when some improvement was made to the course. It will answer the research question whether or the course could achieve more than the third Bloom Taxonomy. The bloom can help to determine the effectiveness of TL of this course. Since this course has difficulties to train students with all these skills in a semester, three constructs were asked; the adequate time to complete the assignment, the enough exposure theory and the enough training for technical skills. A total of 13 respondents have responded the questionnaires out of 16 students.

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RESULT

Here are the results descriptively based on 13 of 16 students who follow this course in semester 2, 2012/2013. These findings are divided into four based on the four skills that are given to them.

	Adequate time		Enough Exposure theory		Enough training			
	Yes	No	Yes	No	Yes	No		
Editing	12	1	9	0	9	2		
Script	5	1	3	3	3	3		
The selection of issues	12	1	11	2	12	1		
Hosting	8	5	9	4	13	3		
Total Yes	**37**		**32**		**37**		**106**	**82%**
Total No		**8**		**9**		**9**	**26**	**28%**

a. Editing video

Generally, 92% respondents agree with the adequacy of time given to complete the assignment because it is given in the first week of the semester. Those who still perceive not enough time is perceived because of lack of skill in using the equipment and software that causes delays of work. Four respondents propose the enhancing intensive training that is currently organized in two days. It means that the course is inadequate to train the students, perhaps because of little or lack of knowledge and experience in handling video camera and using the software for editing. However, they always be reminded for self-exploration to improve the technical skills, as it is an intangible knowledge that need continuous training. Besides, there is a complaint about the university facilities such as computer laboratories and the slowness of the Internet connection.

Based on the evaluation of the assignment, it is found that they can do the assignment accordingly. It can be said that the complaint for inadequate training and lack of facility is a reason by a small number of students. As for inadequate training, actually they can find the alternative such as the tutorial on YouTube and as for the problem of the Internet connection; there are some areas in the University that have a good Internet connection. It can be said that, the constraints are inevitable, but the lecturer and the university have given their truly efforts. The students have to manage their studies and set up priorities to manage their learning effectively.

From the assessment of the video, the students could achieve more than the third level of the Bloom Taxonomy because they can do the design, manufacture and categorize the material they produce it. They could reach the level of analysis as well as a synthesis when they are able to make films and recording related to current issues that are sorted in order of logical and appropriate submissions.

b. The script development

The writing a good script for short documentary is a challenge for the students who are beginners in this field, though they have been given an ample time and an example of the script. Based on the Table 2, 50% of respondents feel inadequate theory and attention to complete this assignment. In other words, they face difficulties to write a good critical script. Actually, at the beginning of the semester, they have been briefed to manage the script in time because the writing skill is a common problem among students. Indeed, the short documentary related to Islam needs the rational and structured arguments to infuse the rational and the emotion of audiences. Nevertheless, along the semester, they have submitted the scripts to the lecturer many times, but it was rejected for the improvement to become a good script. In terms of time given to complete the assignment, the respondents are comfortable with the time, but they could not complete the assignment in time.

Based on the feedback of the study, the script development is second challenge in this course. Due to the effectiveness of the short documentary is closely related to the quality of the script, the intensive training of script writing is needed and this task is not a group task, but it should be an individual task. Based on the evaluation of the results of the assignment, it is found that the students are able to write the script even the submission is late. It can be said that it can achieve at least third level of Bloom Taxonomy. In fact, they could achieve the fourth level that is the level of analysis because writing the script needs the critical reflection of the society.

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c. Selection of current issues

Throughout the course, the main problem is that to identify the relevant the issue to be highlighted of public concern. They are required to present and discuss the reason for choosing these issues. The studies found 92% respondents are satisfied with the time and the theory and the guide that have been given in choosing the relevant issue. The Table 2 shows that only a student perceives inadequate time to carry out this task. Actually, this task needs a wide reading on social issues with the sharp observation on the society from *da'wah* perspective. It is hard to be trained in a semester, but getting involved in the society and continuous training will help to identify the relevant issue easily.

The improvement can be made by listing several important issues as a case study to be discussed in the classroom. The discussion can give a deep understanding of how to identify the relevant issue. Besides, they also can develop a script from the discussion from the beginning of the semester.

Based on feedback from students and assessment of the results of assignments, they successfully conducted assignments accordingly, even though in the beginning of the semester there is a little challenge in identifying the relevant issues. They are also able to make a critical assessment of current issues that enable them to reach the level of the fourth and fifth Bloom Taxonomy.

d. Hosting Skills

The nervous in front of a video camera is a common problem unless who are familiar with the camera. However, this problem can be slowly reduced with a proper training. Based on Table 2, 5 of 8 respondents perceive insufficient time and training provided by this course. It is due to the training for hosting begins after the editing video is done and the script is well prepared. Actually, this skill should be focussed from the beginning of the semester because it consists of many skills such as self-confidence, voice intonation and way of presentation. The improvement in this part is by focussing on hosting as early as possible after the script has been approved. Furthermore, the task can be given not necessarily to one student, but the host can be paired to ensure the training involves many students.

Based on the evaluation of the video, the students are able to become the host with a good presentation. Though there are some weaknesses, they tried to be confident in front of the camera. This means that they are able to achieve at least the third level of application of the Bloom Taxonomy.

CONCLUSION

The making of short documentary requires both technical and non-technical skills. By the increasing of the Internet penetration and the computer literation among the younger generation, these technical skills are no longer a main constraint in producing many short videos in new media. In fact, these skills have already nurtured in this generation by its nature because they live in the era of communication technology. They are known as "generation z" in which the attribute is different to the previous generation. Therefore, it is expected in the next short future, many short documentaries will be produced in new media. Today, we can see in social media, many videos have been in social media. The main question here is about the content of the video in the next five years, whether it is related to the interest of Islam or not. This question could be answered today because the effort of *da'wah* is related to the deep understanding of Islam and the high motivation to spread Islam among this type of generation.

This study contributes to the effort in injecting awareness the students who are living in the era of Generation Z for the techniques of producing a short documentary related to Islam. The citizen journalism is a good concept to describe the effort of doing *da'wah* in an online environment because it is a responsibility of all Muslims. Although *da'wah* can be carried out by authoritative bodies or who are assigned for duty, they have a limitation. If this duty is carried out by many Muslims, the messages of Islam can be delivered to all mankind. This study is an attempt to test whether the non-technical student can develop these skills by themselves or need more attention from the lecturer. The result found that the majority of the student can manage to produce the short video with a little attention from the lecturer. Therefore, it is expected in the next future, many more video related to the interest of Islam can be done in new media.

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The Opinions Of Students About Computer Assisted Demonstration Experiments In General Chemistry Lesson

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ABSTRACT
The enrichment of Chemistry courses including abstract concepts, through laboratory applications, contributes to the development of positive attitude and cognitive competence of the students on the subject. So students can understand chemistry much easier and can build their own knowledge. With this study were aimed the investigation of teacher candidates' opinions about computer assisted demonstration experiments in general chemistry lesson. This research is designed as relational scanning model. The samples of the study comprised 198 students from science, elementary school and gifted education department in education faculty. In the study; "General Chemistry Computer Assisted Demonstration Experiments Effectiveness Scale" with three factors which is developed by Özsoy-Güneş and Kırbaşlar (2014) is used as tool of data collection. In order to analyze the data, SPSS 16.00, ANOVA, independent T-Test, Pearson correlation coefficient techniques are used. As a result; the significant differences were found between the gender, department and graduated secondary school with general scale score and "Persistence of Knowledge", "Contribution to Learning", "Motivation" factors.

Keywords: Computer-Assisted Instruction, Chemistry Education, Persistence of Knowledge, Contribution to Learning, Motivation

INTRODUCTION
Computer Assisted Education is defined as "a teaching method made up of a combination of self-learning principles and computer technology, in which computer is used as a media where learning takes place, a media which enhances learning process and student motivation, from which students can benefit depending on their own learning speed" (Uşun, 2000). Researches show that students enjoy using technology tools such as; video displays, computer simulations, 3D molecular models of computer animations (Byers, 1997). In computer assisted science education, information-communication technologies are considered to affect student's interest, attitude and success positively (Harwood & McMahon, 1997; Hounshell & Hill; 1989; Yenice, 2003,). It is considered that, as the level of student exposure to technological equipment increases, technology literacy rate will also increase.

Because they have a lot of scientific concepts and principles, and they allow visual display for students by using appropriate teaching methods and techniques while preparing class software, among other fields, especially science and technology classes are more convenient for application of computer assisted education. Multi-media materials prepared in accordance with computer assisted education will be effective in improving students' quality of cognitive and affective learning products. Just as these materials can be used in company of teachers, depending on characteristics of the materials, students can study these materials on their own. As a result of this, attitude of the students and their success in the classes are expected to improve. It has been suggested in many studies that, compared to other methods, computer assisted education method, is more effective in improving success in science classes (Akı, Gürel, Muştu, & Oğuz, 2005; Arıkan, 2006; Büyüköztürk, 2000; Çekbas, Yakar, Yıldırım, & Savran, 2003; Çetin, Atay, Güneş, Kulaksız & Ezberci, 2006; Derviş & Tezel, 2009; Kara & Yeşilyurt, 2007; Yenice, 2003; Yiğit & Akdeniz, 2003).

In order to ensure that students can structure their acquisitions in basic fields such as physics, chemistry and biology, special rooms equipped with special tools and instruments are needed. Ever since experimentation method has been a part of teaching field, laboratories have become the first place that comes to mind where science can be thought effectively and in an interesting way (Alkan, Çilenti & Özçelik, 1991). It's especially important that the students connect the abstract terms of science with real life, and in this sense, the lessons that are enriched with experiments, are expected to improve the students' attitude towards chemistry which is an important subject in science (Ayas, Çepni, Johnson, Turgut, 1997; Aycan, Aycan, Arı, Türkoğuz, 2001; Aydoğdu, 1991; Aydoğdu, 2000; Ergin, Akgün, Küçüközer, Yakal, 2001).

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Most of the study in chemistry education is about determining the students' learning difficulties and their misconceptions. According to these studies, many students are not adequate in understanding and comprehending concepts regarded as scientific. In chemistry education, developing conceptual understanding and making conceptual understanding possible has always been important (Sanger, Phelps & Fienhold, 2000). The solution for this is creating an effective learning environment (Chiu, Chou & Liu, 2002). With this aim, computer technologies have been used recently (Burke, Greenbowe & Windschitl, 1998; Ebenezer, 2001; Kelly & Jones, 2007; Marcano, Williamson, Ashkenazi, Tasker & Williamson, 2004;). Computer technologies abolish many difficulties within the learning environments such as; providing the chemicals, the high cost of undertaking the experiment, extensive preparation of the experiment and safety issues (Russell, Kozma, Jones, Wykoff, Marx & Davis, 1997). So students can understand chemistry much easier and can build their own knowledge (Ebenezer, 2001; Hagen, 2002; Kumar, Smith, Helgeson & White, 1994).

Schwan and Riempp (2004) studied cognitive uses of videos in learning. It has been observed that, in order to adapt to students' speed of learning, video presentation features such as; pause, replay, rewind and change of speed were used. It was confirmed that teaching with videos was more effective (Ongel-Erdal, Sonmez & Day, 2004). By using videos in the classroom, the students can have more accurate scientific understanding. It becomes easier for students to understand the discussions on chemistry knowledge presented in the videos. Videos are an important means of teaching chemistry when there is not enough time to execute the experiments and when the teacher is not satisfied enough with the teaching (Laroche, Wulfsberg & Young, 2003).

In this study, within the context of General Chemistry class, computer assisted display experiments have been prepared for subjects such as; classification of the substances, various types of mixtures and separation methods, compounds and separation methods, and these materials were shown to students and students were asked for their opinions. These experiments were prepared with real video recordings, introducing experiment materials with real equipment in chemistry laboratory.

OBJECTIVE OF THE RESEARCH

This study aims of investigating the opinions of teacher candidates about computer assisted demonstration experiments in general chemistry lesson.

SUB PROBLEMS

1. What are the opinions of teacher candidates' about computer assisted demonstration experiments?
2. How do the opinions of teacher candidates' about computer assisted demonstration experiments vary according to the varieties of gender, department, grade, and graduated secondary school?

METHOD OF THE RESEARCH

In this study, quantitative research method and relational screening model has been used.

Model of the Research: Research model is relational screening. In this relational screening model in order to reach certain aims, the relation between special events are tried to be explained and the existence or the level of covariance between two or more variances are tried to be determined (Cohen, Manion & Morrison, 2000; Karasar, 2008).

Sample of the Research: The population of this study is formed by 198 teacher candidates from departments of science, elementary school and Gifted educations at Education Faculty. 79 of Students (39.9%) are from the department of Science, of 66 them (33.3%) are from the department of elementary school education, of 53 them (26.8%) are from the department of gifted education department. 123 of students (62.1%) are female and 75 of them (37.9%) are male.

DATA COLLECTION INSTRUMENTS

For research a two fold form has been created. In the first part personal data like the gender, department and graduated secondary school have been collected. Second part includes "General Chemistry Computer Assisted Demonstration Experiments Effectiveness Scale" developed by Özsoy-Güneş and Kırbaşlar (2014).

In the study; "**General Chemistry Computer Assisted Demonstration Experiments Effectiveness Scale**", developed by Özsoy-Güneş and Kırbaşlar (2014) In order to measure the effectiveness of computer-assisted demonstration experiments was used as the data collection tool. The scale consists of 3 factors; was prepared as Likert type of 7 positive, 5 negative, in total 12 items. The scale is a quadruplet Likert Type scale that includes items of: "I totally disagree", "I partly agree", "I mostly disagree" and "I totally agree". "I totally agree" choice was given 4 points, "I mostly agree" choice 3 points, "I partly agree" choice 2 points and "I totally disagree" 1

point. These factors are defined as; 1. Persistence of knowledge 2. Contribution to Learning 3. Motivation. Crα reliability for the whole of the scale was found 0.85, Crα related to first, second and third factors as 0.81, 0.74 and 0.63. The lowest and the highest points to be scored in the scale, for the first factor 6-24 points, for the second factor 4-16 points and for third factor 2-8 points and in total 12-48 points.

EVALUATION OF THE DATA

The normal distribution of the data attained from the scale according to the items and the factors are examined with descriptive statistics. The average scores acquired from the scale is 37.5758; the median is 38.0000; coefficient of skewness is -.547; coefficient of kurtosis is -.183. The average and the median are close, the coefficient of skewness is between +1 and -1, the coefficient of kurtosis is between +2 and -1 (Huck, 2008). The scores attained from the scale are close to normal distribution. SPSS 16.00 is used to analyze the data. ANOVA, independent T-Test and Post-Hoc test techniques have been conducted to monitor the scores taken from the scales in terms of demographic varieties. PEARSON correlation coefficient analysis technique is applied in order to observe the relations between scales. In all statistical processes significance at a level of .05 has been seeked.

FINDINGS

The research findings are evaluated in the context of problems.

Sub Problem 1. What are the opinions of teacher candidates' about computer assisted demonstration experiments?

The sample of this study is formed by 198 students from science, elementary and gifted school education. The lowest and the highest points to be scored in the scale, for the first factor 6-24 points, for the second factor 4-16 points and for third factor 2-8 points and in total 12-48 points. In this study, the taken total scale score was calculated as 37.5758 (Table 1).

Table 1. Distribution of scores of students taken from General Chemistry Computer Assisted Demonstration Experiments Effectiveness Scale and factors.

Scales		X	SD	SE
Factors	**Persistence of knowledge**	20.5303	3.24883	.23088
	Contribution to Learning	11.3636	2.67705	.19025
	Motivation	5.6818	1.51968	.10800
Scale Total Score		37.5758	6.09584	.43321

Sub Problem 2. How do the opinions of teacher candidates' about computer assisted demonstration experiments vary according to the varieties of gender, department, grade, and graduated secondary school?

As in table 2, as a result of independent group T-test applied to define whether the scores taken from the scale and factors differentiate according to the gender variable; for the scale total score and Persistence of knowledge, Contribution to Learning factor scores the difference between the arithmetic average of the groups have been found statistically significant. Female students' score average is significantly higher than the Male students ($p<.05$).

As seen in table 3 as a result of one-way analysis of variance (ANOVA) which is done in order to determine whether the scale and factors show a significant difference according to the department variable; for scale total score and **Persistence of knowledge** factor score the difference between the arithmetic average of the group has been found statistically significant. Following this process Post-Hoc analysis techniques are started to be applied.

Table 2. The results of Independent group T-test of the scores taken according to the gender variable of students.

Scales		Group	N	X	SD	SE	T test		
							t	df	p
Factors	**Persistence of knowledge**	Male	75	19.4933	3.88821	.44897	-3.293	114.969	.001
		Female	123	21.1626	2.60948	.23529			
	Contribution to Learning	Male	75	10.7467	2.94129	.33963	-2.568	196	.011
		Female	123	11.7398	2.43888	.21991			
	Motivation	Male	75	5.4133	1.70130	.19645	-1.859	132.304	.065
		Female	123	5.8455	1.37919	.12436			
	Scale Total Score	Male	75	35,6533	7.15182	.82582	-3.284	118.850	.001
		Female	123	38,7480	5.03202	.45372			

After one-way analysis of variance (ANOVA); to determine how changed in scale and factors among sub-groups, considering the department variable, Tamhane test has been chosen from among the post-hoc analysis techniques; because of **Persistence of knowledge** factor and Scale group variance are not homogen according to the Levene's test (L=7.480, L=3.081, p<.05). As a result of this test it has been stated that, science education students' score are significantly higher than gifted education students' score for **Persistence of knowledge** Factor and total score.

Table 3. The results of one-way analysis of variance (ANOVA) applied to define whether the scores differentiate according to the department variable of students.

N, X and SD Values							ANOVA Results				
Scales		**Group**	**N**	**X**	**SD**	**Var. K.**	**SS**	**df**	**MS**	**F**	**p**
Factors	**Persistence of knowledge**	Elementary School	66	20.015	4.0894	Between	83.91	2	41.95	4.10	.018
		Science Education	79	21.329	2.3134	Within	1995.41	195	10.23		
		Gifted Education	53	19.981	3.0728	Total	2079.32	197			
	Contribution to Learning	Elementary School	66	11.167	2.7208	Between	29.43	2	14.72	2.08	.128
		Science Education	79	11.823	2.5708	Within	1382.38	195	7.09		
		Gifted Education	53	10.924	2.7235	Total	1411.82	197			
	Motivation	Elementary School	66	5.621	1.4756	Between	11.438	2	5.72	2.51	.084
		Science Education	79	5.949	1.3672	Within	443.52	195	2.27		
		Gifted Education	53	5.358	1.7331	Total	454.95	197			
Scale Total Score		Elementary School	66	36.803	7.2009	Between	314.43	2	157.22	4.38	.014
		Science Education	79	39.101	4.9136	Within	7005.93	195	35.93		
		Gifted Education	53	36.264	5.8050	Total	7320.36	197			

As seen in table 4 as a result of one-way analysis of variance (ANOVA) which is done in order to determine whether the scale and factors show a significant difference according to the graduated secondary school variable; for scale total score and all factor score the difference between the arithmetic average of the group has been found statistically significant. Following this process Post-Hoc analysis techniques are started to be applied.

After one-way analysis of variance (ANOVA); to determine how changed in scale and factors among sub-groups, considering the graduated secondary school variable, TUKEY test has been chosen from among the post-hoc analysis techniques; because of **Persistence of knowledge, Contribution to Learning, Motivation** factors and Scale group variance are homogen according to the Levene's test (L=3.015, L=1.248, L=2.350, L=2.218, p>.05). As a result of this test it has been stated that, graduated public high school students' score are significantly higher than graduated teacher and Anatolian high school students' score for all factors and Scale total score.

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Table 4. The results of one-way analysis of variance (ANOVA) applied to define whether the scores taken differentiate according to the graduated secondary school variable of students.

N, X and SD Values					ANOVA Results					
Scales	**Group**	**N**	**X**	**SD**	**Var. K.**	**SS**	**df**	**MS**	**F**	**p**
Persistence of knowledge	Anatolian High School	40	20.2000	3.36802	Between	109.467	2	54.734	5.418	.005
	Teacher High School	121	20.1653	3.37971	Within	1969.851	195	10.102		
	Public High School	37	22.0811	2.08671	Total	2079.318	197			
Contribution to Learning	Anatolian High School	40	10.5750	2.82741	Between	61.181	2	30.590	4.417	.013
	Teacher High School	121	11.3223	2.66838	Within	1350.637	195	6.926		
	Public High School	37	12.3514	2.26343	Total	1411.818	197			
Motivation	Anatolian High School	40	5.5000	1.63299	Between	23.837	2	11.919	5.391	.005
	Teacher High School	121	5.5207	1.51162	Within	431.117	195	2.211		
	Public High School	37	6.4054	1.21242	Total	454.955	197			
Scale Total Score	Anatolian High School	40	36.2750	6.52800	Between	500.370	2	250.185	7.153	.001
	Teacher High School	121	37.0083	6.09439	Within	6819.994	195	34.974		
	Public High School	37	40.8378	4.41282	Total	7320.364	197			

RESULTS

In this study, scores from students' General Chemistry Computer Assisted Demonstration Experiments Effectiveness Scale were high. This proves that the practice in this lesson has been successful. When students' scores are analyzed, the highest scores are achieved with factor of persistence of knowledge. This shows that, the practice has been more useful in this dimension. (When literature is studied, the researches indicate that benefiting from computer assisted education increases students success and improves their attitudes meaningfully (Akaygün & Ardaç, 2001; Berger, Lu, Belzer, Voss, 1994; Geban, 1995; Kesercioğlu, Balım, Ceylan & Moralı, 2001; Zavrak & Tarhan, 2001).

For the scale total score and Persistence of knowledge, Contribution to learning factor scores; Female students' score average is significantly higher than the Male students. In line with this, it is possible to say that female candidates are more interested in visual learning. It is indicated in some studies within the literature that there is a meaningful difference depending on gender (Sadık, 2006; Shapkaa & Ferrarib, 2003; Schumacher & Morahan-Martin, 2001; Shashaani, 1993). However, in some studies, it is indicated that there is not meaningful difference in teacher candidates' attitudes depending on gender (Çobanoğlu, 2008; Birgin, Kutluca & Çatlıoğlu, 2008; Shapkaa & Ferrarib, 2003; Gunes, Ozsoy-Gunes, Derelioğlu, Kırbaslar, 2015).

According to the departments, it has been stated that, science education students' score are significantly higher than gifted education students' score for Persistence of knowledge factor and scale total score. This finding, as Özgür and Tosun (2012) also stated in their studies, may be a result of the characteristics of the department, students' own personality traits and the differences of the features of teaching-learning environment. According to graduated secondary school it has been stated that, graduated public high school students' score are significantly higher than graduated teacher and Anatolian high school students' score for all factors and Scale total score.

The students expressed that "Computer Assisted Demonstration Experiments" used as part of the study increased the permanency of knowledge, contributed in learning and enhanced motivation. Because of its contribution in the class, its usage must be encouraged and the content must be enriched for various subjects. Thus the concepts of the student must be ensured to configure in any meaningful way. Different patterns must be used in studies, the effects of experiment methods on high level learning products such as; students' attitude, self-efficacy, problem

solving skills, scientific operation skills, critical thinking, and long-term researches must be conducted and studies must be done on more experimental subjects.

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The Portfolıo Implementatıons Of Prospectıve Pre-School Teachers In Scıence And Math Educatıon As An Alternatıve Evaluatıon Instrument (The Sample Of Sabahattin Zaim University)

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ABSTRACT
Although the use of portfolio in the curriculum of teacher training and evaluation process is a common method, in recent years, it is a new trend in Turkey. The purpose of this study is to set forth an approach on using portfolio not only as an assessment tool based on constructivist approach but also as a teaching tool in the process of science and math education in preschool education. The document examination and observation methods of qualitative research were employed in this study. The study was conducted with second grade prospective preschool teachers (n=49). For this study, prospective teachers were asked to design two original experiments and materials for science and math education for children at the age of 4-6, to perform these experiments by them and children in a period of 14 weeks; and to perform these experiments at home and kindergarten in compliance with the target achievements. The experiments designed by prospective teachers were discussed with other prospective teachers in terms of being safe, economic and practicable. The experiments were performed by prospective teachers for two times; first at home and kindergarten, then at science classes. After the process of experiments and the applications of materials, the feedback obtained from children were re-evaluated by prospective teachers. Finally, the prospective teachers were asked to prepare portfolio involving their self-assessment regarding each step of the implementation process. As a result of this study, under the lights of portfolio implementations and evaluations, an approach was set forth towards the use of portfolio in the process of teacher training which paves the way for the usability of cognitive life skills at the highest level for teachers and suggestions were made.

Key words: preschool science and math education, portfolio, experiment, material.

INTRODUCTION
Advances in science and technology affect all developed and developning countries.These advances cause a fast change in the social, political, economic and cultural systems in Turkey. In parallel with this, the need for education increases and the importance of investing in human beings becomes clearer. Accordingly, the everchanging world and social needs make some changes in the educational system inevitable. The traditional status of teachers as information provider has been transformed into a status of teacher as a guide to information, a facilitator of learning, and a motivator of students for thinking. Instead of rote learning, students must be trained as individuals who can reach the information, who can use this information, who can debate, who is inquisitive, who can utilize the thinking processes, and who can produce new information (Bilen, 2002: p. 2). Classical approaches to assessment/evaluation have been commonly used both in Turkey and abroad. They usually tend to give importance to performance or process assessment, contain questions with one correct answer such as pen and paper tests, and find out whether students remember the information given to them. Besides, genuine assessment methods that offer students an opportunity of choice and collection of and reflection on the things that they are to learn, that will improve students critical thinking skills, and that will motivate them to show their academik powers are ignored (Adams ve Hamm, 1992, p.103) and therefore permanent learning is not achieved (Banta, 2003, p.2). Starting from preschool teaching, teachers at all levels of education are interested in what students learn, and they feel the need to use suitable assessment methods in order for them to track the development of students. It is important that teachers run together the processes of knowing and assessment of students with the process of learning, and that they consider each activity as data about students (Parlakyıldız ve Yıldızbaş, 2007, p.377). The use of alternative assessment activities are supported by theories of learning and classroom life. On the one hand, students learn in different ways and on the other, they create information from their own experiences. Variation in types of learning and the nature of learning have obligated teachers to employ alternative assessment methods (Vyortkina, 2003, p.11). The main goal in choosing portfolio assessment from among alternative assessment methods in the present study is that it has all the characteristics of new assessment methods and that it has been widely used all over the world. Portfolios do not only assess students' knowledge and skills; they also require more effort for planning and assessment. Fort his reason, it is an assessment method that also teaches ways of learning (Banta, 2003, p.3). What is portfolio? Portfolios have been defined differently by different researchers. Some of them are as follows; "Collection of cumulative and systematic works chosen and recommended by students, teachers or colleagues in order to assess/evaluate the development of the student's existing skills" (Simon and Forgette, 2000, p.85). "A teaching portfolio is the total of the documents of a teacher's in-class activities and contains lesson plans, student homework, teacher's written instructions, video cassettes an deven advisor evaluations" (Wolf, 1996, p.35). A portfolio is a collection with a purpose which exhibits students' achievements in different areas in the process in

which they are. This collection is a criterion for qualified decisions, a proof of students' own reflections, and contains students' own sections with the contents chosen" (Paulsen ve Meyer, 1991, p.60). As the definitions indicate, its characteristic that improves students' creative thinking makes portfolio an alternative to the classical assessment tests (Banta, 2003, p.1).

The characteristic of the present century which can be defined as "Science Explosion" makes it necessary for our children to acquire some characteristics such as scientific concepts and creative thinking in early childhood. Early childhood is a period in which a child actively acquires basic concepts and the skills of the scientific process. The experiences that the children have in this period creates a suitable environment for the acquisition of the concepts. In the day-to-day life, when we observe a small child in his/her natural activities, we can see the formation of the concepts and their application in cases that require problem solving. One-to-one matching, counting, classifying, and assessment are some of these concepts (Arı, 1993, p.99). The starting point of the science and maths teaching for preschool children is their natural environments. They are curious, investigative, imaginative and querier. In order to support their development in this aspect, they must be given opportunities in which they can satisfy their curiosity by investigating and make predictions by suggesting ideas. This can be achieved through "science and maths activities" that improve children's curiosity and research motives and stimulate their cognitive skills (Arnas, 2007, p.7). In this way, children who have become familiar with scientific activities can learn and implement the scientific processes both at home and in the preschool science teaching. In addition, active participation of the families in the programs of the educational institution, their familiarity with the play material and their uses, and and at least their attempt to supply children with similar material in the home environment will simply contribute to the learning process of the children (Bilir, 1993, p.34). Achieving a successful parent-child interaction, which can be considered as the basis for the interaction that the child will establish with other people in the future, depends if and only on the condition that the mother spares enough time for the child and meets his/her affectionately and properly. As is known, parents are the first teachers of a child who help the child learn many developmental skills such as walking and speaking, and information about his/her environment. The teaching functions of the parents start from the child's birth but do not come to an end when the child starts to go to school and has a regular teacher at school (Temel ve Ömeroğlu, 1993, p.74). In general, almost in all countries in the world, the education in the first five years of a child's life, which is the most important period, is considered to be the basic duty of the parents (Oktay, 1993, p.104). It has been observed that children start the process of learning their immediate environment by touching, tasting, hearing and seeing and then start to develop their skills of asking questions and doing observation-experiment. Especially in the preschool period, making the activities of science and maths education more pleasurable for children and aiming their interests, expectations and needs rather than giving them standard information when planning these activities will make science and maths education more meaningful for children and lead them to develop a more positive approach to sciences in the future (Gürdal ve et al, 2001).

The Laboratory (Experiment) Method in Science Education

Akgün (2001) defines the experiment method as "experimentation whose conditions are prepared by the researcher in order to repeat the events in nature and reveal a truth in science" (cited in Arnas et al, 2012, p.148). According to Kang & Wallace (2005), the laboratory method is a teaching method that develop cognitive skills and that allows for the learners to work individually or in groups. Science experiments are a necessary and indispensable part of learning experiences in science lessons. It improves the investigation and research skills of the learners and make them interested in learning and eager to learn. Science experiments which are based on learning by doing and experiencing make learning effective and lively and allows for the learner to actively take part in the learning process (cited in Küçükturan, 2008, p.66). This improves learner's such cognitive skills as ratiocination, setting up cause and effect relationships, problem solving, and making generalizations. It also helps them develop positive attitudes towards using the scientific method (Küçükturan, 2008, p.66).

The Importance of Experiment in Preschool Teaching

The use of experiment method in science and maths lessons in preschool teaching is important in terms of developing children's curiosity and research motives, stimulating their cognitive skills and being successful in their school lives in the future. Children are interested in the objects and events in their immediate environment. In order to keep children's interest alive, parents and teachers should find science/maths activities that will set the them in motion and that will be interesting for them. A perfect laboratory is not always necessary in order to make experiments. Especially for preschool children, there are many experiments that can be conducted with simple materials without having a laboratory. Such things at home and in the environment as growing plants, animals, worms in the soil, wood floating on water, and sinking of a stone in water are all experiments. Children who do not attend preschool education institutions must also be educated by their parents at home. Science/maths activities can also be done at home (Şahin,1998, p.31). One of the most enjoyable ways of involving children in science and maths is the cooking activity either at home or school. According to Jackman (2005), one may ask a child playing in a dramatic playground to explain the material in an imaginary cake that she is baking. Most of the time, the response will like this: "I added 20 cups of sugar, some flour, and two eggs. I blended them and put the mixture in

the oven for ten minutes." Even though the numerical amounts of the materials in the recipe are not correct, children are aware of the concept of amount in the recipe (cited in Kandır ve Orçan, 2011, p.37). The aim of conducting experiments in the science and maths lessons is not to transfer information to children by showing; the aim is for them to learn in an effective way by doing and experiencing the events related to the nature, science and maths (Arnas, 2012, p.148). As can be seen, parents at home and teachers at school can extend such activities through play. In this way, the child improves her skills of counting-concepts-colors-shapes-matching-measuring-forming patterns-modelling-cooperation-problem solving, and in this way contributes to her social and emotional development.

The aims of the present study are: to investigate the possible aims of science experiments and maths materials that can be conducted and used at home and school; to find out about the aspects of such experiments and materials, to which attention must be paid during implementation; to determine the advantages of using home and classroom as an experiment environment; to elicit learners' views about the portfolio implementation in science and maths instruction; and, by creating a model of education, to suggest an approach on how experiments and materials can be used as experiment tools in science and maths education. Thus, the study involves the assessment of the regular and cumulative collection of the science experiments/maths materials that the university students performed/prepared during the course using some predetermined criteria.

METHOD

In the present study, the data were collected through document review and observation methods (Yıldırım & Şimşek, 2000). "Documents proove their value not only because of the things that could be learnt from them but also due to being stimulating for researchers that can only be followed by observation and contact" (Patton, 2002). "Observation is a method that is used for a detailed description of a behavior that takes place in an environment or institution" (Yıldırım & Şimşek, 2000, p.124). This study was carried out in the Science and Maths Teaching course with the second year students (N=49) of the Department of Preschool Teaching, Faculty of Education, Istanbul Sabahattin Zaim University, in the spring semester of 2014-2015 academic year. This study was carried out with prospective teachers and the steges of the study are as follow; Prospective teachers were asked to review articles for two weeks and then design two original experiments and one maths material to be used in the science and maths class for the 3-6 age group. However, during the design process participants were warned that the experiments and material had to be in line with the gains and indicators and the students' level of education and that the material had to be waste material that can be found in the natural environment. Each experiment and material that was designed by each prospective student was discussed in the class with other prospective students by paying attention especially to reliability, economy and practicality and necessary modifications were made. When the experiments and materials took their final form, prospective teachers were asked to test them themselves at home, and in this way the stages of experiments and materials were re-checked to see whether they are suitable in terms of such aspects as timing and reliability. Then, these experiments and materials were implemented in the Science and Maths Teaching course of the fourth semester of the undergraduate program of the university and in the science and maths courses in the nursery schools/at home by children. At this stage, before the results were discussed in class, prospective teachers were asked to prepare a portfolio including their own evaluations for each stage of the implementations. Finally, prospective teachers shared with other prospective teachers their experiences in class either by implementing them or as a presentation by considering the results of their implementations of the experiments and materials. The feedback that was elicited from children after the experiments and materials were implemented were re-evaluated with prospective teachers by considering the portfolios as well. After the presentations, prospective teachers were asked to add another section into their portfolios in which they evaluated their peers, course, and the instructor of the course. In this way, they evaluated themselves, the children at school/home, and their classmates. Throughout the process, the researcher observed the implementations of the prospective teachers and took some notes. The portfolios prepared by the prospective students were collected at the end of the implementations and were anaylzed using document analysis, one of the qualitative research methods. When analyzing the portfolios, they were coded to maket he analysis more meaningful. The portfolios were coded as P1, P2, P3, P4, and so on. The notes that were taken during the observations in the prosess and the results of the examination of the portfolios were combined and in this way the results for the approach of "Creating Experiments and Materials for Science and Maths Course" were obtained.

FINDINGS

As a result of the researcher's document review of the portfolios and observations, the findings about the aims that the experiments and materials serve were collected under the following titles.

Acquiring the Concepts

Review of the portfolios and observation data showed that through science experiments and maths materials, children can acquire especially the concepts at home/school safely and joyfully. For example, a prospective teacher taught children the concept of numbers, counting from 1 to 6, and matching the colors through an activity

called “Let’s Do Our Own Lovely Train Loaded with Fruits” (P1) which was made completely of waste material. Doing a cut and paste activity, the prospective teacher contributed to their motor development (See Picture 1).



Picture 1. An image of “My Lovely Train Loaded with Fruits”.

It supports the cognitive developmen domain (The child concentrates, counts the objects, observes, does matching according to color, tells the name of the geometric form). It supports language development domain (the child examines the visual materials, aswers questions related to the visual materials). It supports motor development domain (The child lays the objects together, piece them together to create new forms, stick them together, cut them). Gains after the activity are such concepts as primary-secondary colors, circle-square, odd-even, front-back, up-down, in front of-at the back, bottom-top-middle, former-latter,same-different-similar.

Modelling capability

Review of the portfolios and observation data also showed that science experiments are effective in modelling capability of children. For example, in the “Stampeding Peppercorn” experiment, it was found that the habit of washing hands with soap can be acquired (P28). In this experiment, the peppercorn as a visual element represents the microbes. If we immerse our hand with soap, we see that the peppercorn stampedes and it never likes soap.



Picture 2

A Picture of the “Soapy Water and Soapy Hand” experiment



Picture 3

A Picture of “Stampeding Peppercorn” experiment

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Forming Patterns (Matching-Establishing Relationships -Raising Awareness for Movements that Require Object Control)

Review of the portfolios and observation data also showed that the experiments and maths materials raised children's awareness in terms of balancing objects of different sizes and weights on a scale. For example, sorting objects with different sizes, colors, weights and figures in an ascending order, grouping, estimation, observation, and establishing a cause and effect relationship. The "Let's Weigh the Numbers" science-maths-play activity emphasizes the importance of child's ability to perform the movements that require object control (see Picture 4,5). This activity also improves child's ability to form patterns and use them in the Daily life.





Picture 4.
A Picture of experiment materials





Picture 5
A Picture of "Let's Weigh the Numbers" activity

Multipurpose usability of a single material

Prospective teachers state that many experiments can be made at home/in the classroom at zero cost using a single material that can be created by using waste material. For example, a prospective student explain it like this in her portfolio (P26). "*I am a graduate of vocational high school for girls and when I heard the word experiment I always remembered such things as heater, alcohol and beaker, but When I was preparing my portfolio I found that I can teach children a lot of things by using only "cloth-paper-rope*. *This caused me to make a lot of plans about my career development and Daily life*."

Another prospective student made the following remarks in her portfolio (P23). "*As can be seen from the sample experiments that I made, we do not need expensive materials and different equipment*." The aim of the "Journey to the Seasons" material aims to teach children clothing according to weather conditions, finding solutions to problems, shapes, colors, texture, thin-thick, and etc.

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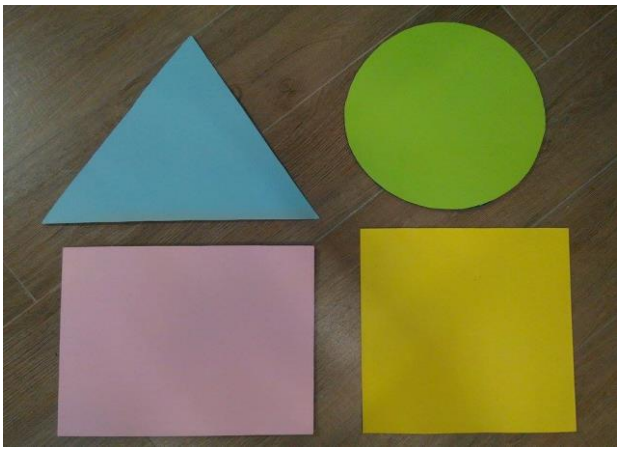

Picture 6
A Picture of experiment materials



Picture 7
A Picture from the "journey to the Seasons" activity



Having an impact on the social and emotional progress of the children

Based on the examination of portfolios and observation data, one can see that hoe/classroom experiments affect children's social-emotional development. For example, in the "What was It that I Touched" experiment (P36), "I can do it" feeling was observed in the children and this shows that home-kitchen-classroom can be used as experiment spaces (See Picture 6). Children always feel themselves ready to explore the physical environment in which they are. When they take the opportunity to explore they become interested. When they research in their daily lives, they also create a strong and permanent mental image of their experiences (Conezio and French, 2002, p.12).





Picture 6. "What was It That I Touched?" Pcitures from the Experiment Stage

In the light of the portfolio assessment and observation notes taken by the researcher, another finding is that there are some points that must be taken into account when using the home/classroom environment as experiment space. They are as follows;

- The experiment must be preplanned and materials must be ready.
- Experiments must be at student's level of development and be suitable to his/her want and readiness.
- Before the actual implementation, the experiments must definitely be tried by the teacher, necessary modifications must be made, and it must be tailored to the level of the child. It was observed that by doing this, the time is used correctly and fruitfully.
- The planned experiments must be evaluated from the child's point of view, and if necessary, they must be redesigned according to children's perceptions of them.
- When using the home and classroom as experiment spaces, objects of possible harm must be removed as far as possible, and ultimate care must be taken to create a suitable environment for the experiment.
- The teacher must be aware of the fact that the individual characteristics differ from one child to another and that expecting from them more than their actual abilities will demotivate them and they will get bored even with the simplest experiments.
- In order to get a good control of the experiment, it should first be implemented with a small group.

Based on the portfolio assessment and the notes taken by the researcher, the advantages of the approach of conducting experiments in the home and classroom environments were found to be as follows:

- It supports the questioning of the results of the observations and experiments.
- The experiment approach responds to teachers' and children's attempts to learn about the world in which they live.
- It increases children's curiosity.
- The child is able to define his/her enviıonmet better.
- Because children conduct the experiments themselves, this approach is effective in the development of their self-care abilities and improvement of their self-awareness abilities.
- Home/classroom experiments have some serious cost advantages.
- It was found that establishing relationships with the daily life is effective in discovering life skills, and this was especially emphasized by the prospective teachers.
- One of the most important advantages of home/classroom experiments is that one can use waste materials to conduct the experiments.
- In this way, they contribute to children's sensitivity towards the environment.
- If children carry out the experiments under the supervision of their parents, this will make children happy and will increase their self-confidence and therefore will contribute to their motivation.
- Home/Classroom experiments offer children a lot of opportunities. In addition, children directly make their own experiences more interesting and enjoyable in their lives.

Prospective teachers' views on the portfolio implementation in the Science and Maths Course are categorized in Table 1.

Table 1. Students' views on the portfolio implementation in the Science and Maths Course

Categories / Responses	f
What did I do during this course?	
I made an article review	45
I was planned and I used the library	10
I tried to create different activities	26
I followed the science and technology	33
I practiced by trying to take notes	10
What did I learn?	
Compared to other courses, I learned more distinctive things.	42
I am now able to transfer what I have learned to others	32
I've been reconciled with maths	4
When investigating experiments, I noted down the ones that I found different	5
I learned how to prepare activity plans	38
I learned how to prepare daily plans	12
I learned what to do with the materials at home	42
I learned that learning is a process	46
I learned to use scratch paper when studying	5
I discovered that things are more meaningful with children	
Points/Activities in the study that I found I was successful	43
I used the waste materials professionally	20
I knew myself	38
I developed tools at zero cost	24
My creativity and imagination improved	41
I enjoyed my activities	37
I gained self-confidence and learned the importance of group work	
	12
Points/Activities in the study with which I had difficulty	18
I had difficulty in creating experiments	34
I had difficulty in tasks that required hand skills	42
I had difficulty in keeping up with the pace of the course and in understanding the method of the course	
Preparing the portfolio took my time	
	22
	27
Skills that I think I acquired throughout the Science and Maths course	33
This course contributed to us in terms of such skills as social sensitivity, awareness, cooperation, solidarity, effective communication, self-assessment	44
	45
I was patient and act according to needs	36
I learned to be open to innovation and to use the methods when and where necessary	12
My skill of criticism improved	30
I used the technology in the right place	
I explored what I can do	45
My sense of competition improved	46
My sense of taking responsibility improved	31
Occupational skills that I thing I gained from the Science and Maths course	27
I learned from this study that there are a lot of materials around me that I can use in science activities	31
By writing reports about the material, I learned how to prepare materials	47
I paid attention to doing research in all areas and courses	
My relationship with children grew stronger although I am a second year student	41
I gained the skill of leadership and actively participated in the lessons	45
I improved my skills of preparing presentations and speaking	44
My thoughts on and recommendations for portfolio assessment	46
I improved my research skills	12
I understood the importance of literature review	37
I improved myself through peer assessment	45
I saw my deficiencies through my research	46
I started to read articles in other fields	

I improved myself with the feedback of my instructor I adopted economy and saving as my life style I understood what process-driven learning is	

According to the statements of the prospective students in Table 1, the portfolio implementation in the Science and Maths course supported their personal and occupational development and improved their self-confidence. These feelings are manifested in their statements that their self-confidence are increasing consistently and that they are more aware of their achievements. The analysis, documentation and presentation of the activities that the prospective teachers conducted helped them to reflect their strengths and weaknesses in the beginning of the course, their changing interests and types of perception due to portfolio implementation, and their need for continuous improvement. Furthermore, they especially emphasized the fact that the science and maths course caused more enjoyable and more permanent learning with accompanying research and activities. However, the consensus that students reach in the form of self expression through individual or group works and discussion and critical analysis of their occupational development was found to be rather difficult and time consuming. The portfolio process encourages students about sparing more time for studying and research.

After the document review of all portfolios (N=49), observations and implementations, "A Model for Home/Classroom Experiment Approach" has been obtained that will allow for seeing all the related elements from a single point of view (see Figure 1). The aim of this model is important in that it offers a flowchart for the use of home/classroom as an experiment environment.

At the first level of the flowchart, a needs analysis is made by taking an expert's opinion. After the learning targets have been set, the contents are created accordingly. After the creation of the contents, different teaching strategies are developed. For science experiments and maths materials, the most suitable strategies are determined as discovery and brainstorming methods. Brainstorming allows for sharing with stakeholders. At the end, an evaluation is made about whether the targeted behaviour has been gained. If the evaluation shows that it is enough, the interaction (congruence between learning targets and gains, congruence between method and implementation) between the elements is checked and so the teaching process comes to an end. If the targeted behavior is not congruent with the gains, the process starts again from the learning targers. Figure 1 shows this loop.

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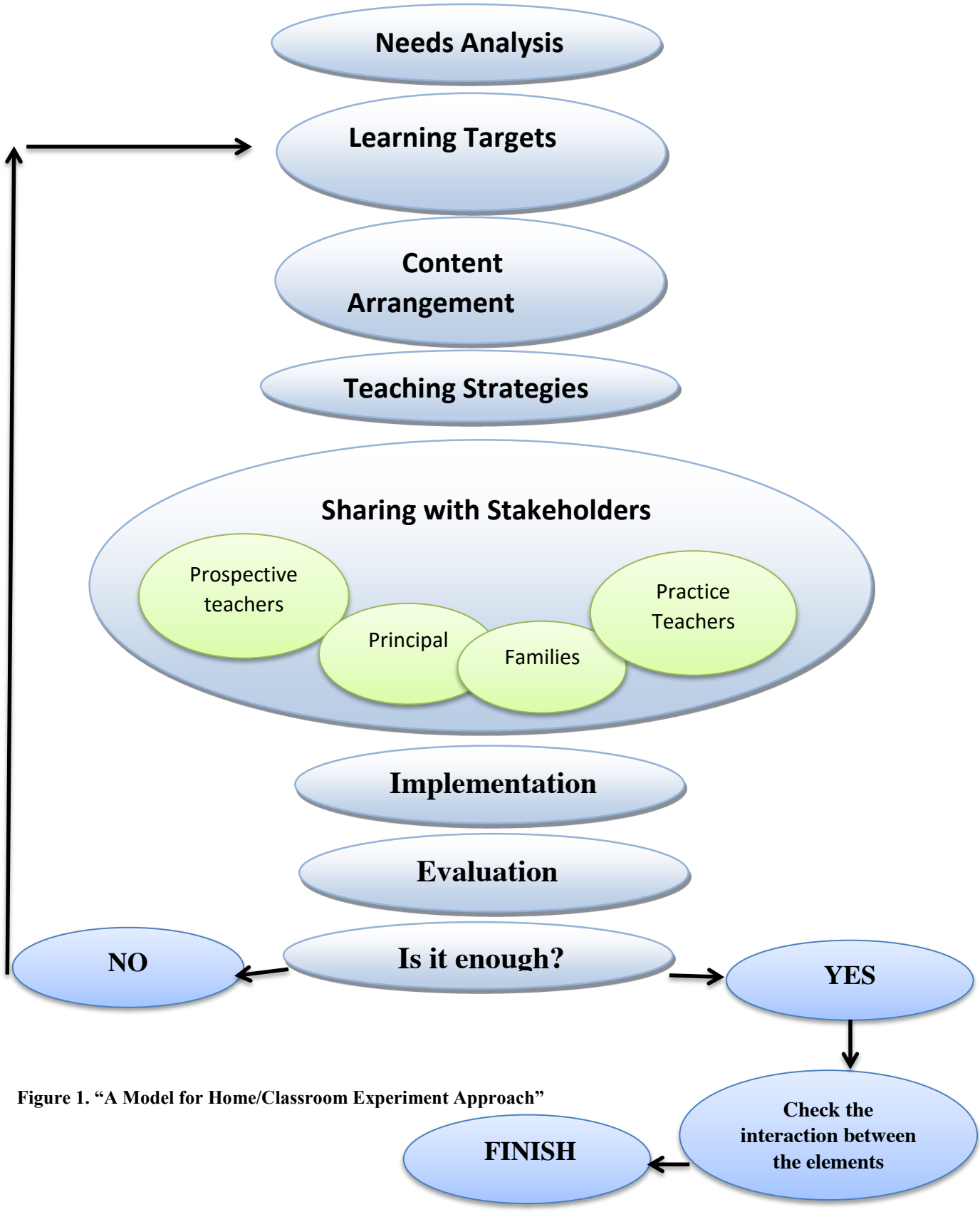

Figure 1. "A Model for Home/Classroom Experiment Approach"

CONCLUSIONS AND RECOMMENDATIONS

Prospective teachers can get the necessary skills that can be the foundations of their lives by making suitable plans, designing suitable experiments and materials, and by using different methods. The positive and supportive attitudes of educators and parents are important in making the children to get these skills qualitatively. Each activity that is conducted with children will enrich their small world. For this reason, prospective teachers must be good observers, must be able to canalize children to such activities whenever they need to, and must develop their skills of observation, research, investigation, experimentation and questioning by asking them open-ended questions about everthing. Observing whether or not a child can transfer the knowledge that she learned in the school or in her environment into her real life can be made only by parents and teachers. Therefore, prospective teachers must not see the science and maths education in the early childhood as an activity but as a life skill.

It is possible to create projects and conduct experiments at home/school. The findings of the study have shown that science experiments and activities made with maths materials can be used as a laboratory for science and maths education in all cases with waste materials and without structured apparatuses.

Prospective teachers stated that through the portfolios that they created they reflected the individual differences, occupational values, problem solving skills in the daily life, and life styles. These findings were obtained through a study made by prospective teachers and it was found that a lot of things can be achieved if different environmets are used. All these make the present study important.

As one can see, portfolio-based learning, implementation and assessment make it possible for a student to give meaning to new knowledge by starting from her own knowledge without separating her brain from her body, feelings and social environment, and it perceives the student as a whole and aims to educate them as all-rounders. This study has shown that as an alternative assessment tool, portfolio implementation can be used successfuly in the "Science and Maths Education" course with prospective teachers in undergraduate education.

This study makes the following recommendations:

- It is thought that simple science experiments and maths activities that can be conducted at "home/school" in the preschool period will offer children rich experiences. Teachers and parents can be informed of this.
- Workshops can be organized on how to design experiments and maths materials using waste material.
- Through in-service training courses and seminars, preschool teachers and prospective teachers can be informed of waste materials and science and maths experiments.
- Science and maths course is limited in terms of course coverage. In a longer period a pilot work may be done to find out about the effectiveness of the experiments and materials.
- In educational institutions, experiment and learning environments that are suitable for the constructivist approach can be created.
- Portfolio implementation and assessment is recommended in the teaching of different courses in teacher training departments of universities in general, and in the teaching of all courses in the departments of preschool teaching in particular.

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The Relationship Between The Attitude Towards Teaching As A Subject And Technology Perception

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ABSTRACT
Education is both the shaper and the shapee of the social life, culture, economy, development, and technology. It is both the subject and the object of the changes and trends, and educators should keep up with those trends and changes to stay alive and fulfil its purpose. In this sense, educators are expected to be on the same line with those changes if the quality of the education is meant. In this study, this expectation was tested by investigating pre-service teachers' attitudes towards teaching as a subject and their perceptions of technology in education via Attitudes towards Teaching as a Subject Scale (Üstüner, 2006) and Technology Perception Scale (Tınmaz, 2004). The study was designed as a quantitative study and junior students' (in four departments: Primary School Science Education, Primary School Education, Turkish Education, Primary School Mathematics Education) attitudes towards teaching as a subject and technology use in education are measured. While analyzing the data collected, SPSS (Statistics Program for Social Sciences) was used. Correlation and regression analyses was used to interpret the data to test if the technology perception of the pre-service teachers could be predicted from their attitudes towards teaching as a subject. It was expected that pre-service teachers eager to teach would be eager to use technology in their classrooms to fulfil the modern education means. As it is a grounded problem that teachers are not willing to use technology in their classrooms, an offering was made with this study where to start to make them more willing to use technology.

Keywords: technology integration, teaching attitude, technology beliefs, pre-service teachers

INTRODUCTION

Students of the era called 'technology' are found to be differentiating from the students of the previous decade in terms of clothing, language, perception, etc., still the most striking different difference of them is found to be their attitude towards technology (Prensky, 2001). Being born after 1980s, students from K-12 to college are described as under the effect of digital and rapidly changing world which started in 1970s (Palfrey & Gasser, 2013). Those students are found to be benefiting the integration of technology into classroom (Alexiou-Ray, Wilsion, Wight & Peirano, 2003). For a better learning environment for students, then, the authorities that could integrate technology into classroom would arrange learning environment and activities accordingly (Bates & Poole, 2003). Indeed, it is expected from institutions or teachers to reformulate their teaching styles accordingly with the learner characteristics (Kemp, Morrison & Ross, 2010). In this sense, it would not be dreaming to expect schools and teachers of 2000s to integrate technology into their classrooms.

Technology integration has been found to be advantageous for students in terms of motivation (Price & Kadi-Hanifi, 2011; Earle, 2002). The students in Detroit received education with two technologies (geographical information system and information assurance) are found to be benefiting technology use as their motivation and learning for science have increased (Xie & Reider, 2014). In an engineering class where metacognition software was used, students in the classroom with technology integration studied more and achieved better than the ones without technology integration (Mazumder, 2012). The study is designed with a pilot study before, and the experimental phase is tested before. The students with technology integration had a higher motivation level than the ones without technology integration. Also, it is found in the research that students without technology integration assessed themselves higher than supposed to be. However, some researchers suggest that it is not always true that all students are motivated by technology (Jacobs, 2012).

Also, it has been found in research that technology integration into classroom has a positive impact on achievement (Hancock, Knezek & Christensen, 2007; Protheroe, 2005; Keengwe & Hussein, 2014). Along with problem solving skills – a substantial element for constructivist approach -, writing skills of the students are found to be benefiting from technology integration into classroom (Lowther, Ross & Morrison, 2003). Also, a general overview of the impact of technology integration on student achievement has concluded that technology integration should be supported by teachers and schools as it brings positive outcomes besides (Cradler, McNabb, Freeman & Burchett, 2002). Instructions for teachers and scholars how to integrate technology has bee explained

thoroughly by research (İşman, 2001). However, the authorities to integrate technology into classroom tend to ignore technology integration (Mumtaz, 2000; Fenty&Anderson, 2014). Even in districts like Silicon Valley where technology is expected to be highly used, it is observed that technology integration is not as much as expected (Hernández-Ramos, 2005).

There are numerous studies that signal the integration of technology into classrooms should be done effectively and in a systematic way (Gülbahar, 2007; Bitner & Bitner, 2002; Dockstader, 1999). Researchers note that too much time spent on technology does not affect the achievement positively (Lej & Zhao, 2007). The directive role of the teachers and school administration is regarded highly important for technology integration to be successful in classrooms (Muir-Herzig, 2004). On the other hand, it is reported by some researchers that achievement of students at higher education is not significantly affected by technology use and high-achievers are less satisfied when technology is used (Wurst, Smarkola & Gaffney, 2008). In this sense, teacher's role is rather significant for the way of integrating technology into classroom.

In spite of the positive outcomes of technology integration, the practitioners of technology in the classroom are hesitant about the use of technology (Ritz & Martin, 2013). If teachers do not believe the positive effect of technology integration on the achievement of students, they do not prefer to use it (Wachira, Keengwe & Onchwari, 2008). Another reason teachers are reluctant to use technology is that they lack instruction about how to integrate technology effectively into classroom (Rabah, 2015). In Turkey, it is observed that teachers are found to be incompetent enough to utilize technology in the classroom although technology integration is encouraged by the government and educators (Kurt, 2014). However, it is found that teachers become more effective in integrating technology when they are instructed (Skoretz & Childress, 2013). Thus, pre-service teachers' views and the way they are instructed are highly significant for technology integration.

On the practice of technology integration, one influential element is the beliefs of teachers about technology use in the classroom (Honey & Moeller, 1990). It is not only that teachers use technology when they believe in its effectiveness; moreover, their beliefs are found to be affecting the way of technology integration into the classroom (Ertmer, Ottenbreit-Leftwich, Sadik, Sendurur & Sendurur, 2012). They integrate technology into classroom the way they regard instruction. It is found in a study in the United States that the teacher beliefs are determinant on the epistemological and instructional conceptions (Kim, Kim, Lee,Spector & DeMeester, 2013). A significant correlation was found in the study between the effective instruction and technology integration. Also, the study suggests that teachers' opinions about teaching conceptions are related with their epistemological views. That is to say, a teacher's opinions about teaching experience are related with his/her way to understand information, teaching practices, and technology integration.

To conclude, as students of this era are called as "native speakers of technology" (Prensky, 2010; Kennedy, Judd, Cruchward, Gray & Krause, 2008) and pre-service teachers are expected to speak in their language to deliver effective instructions, their technology integration beliefs are expected to be related with their attitudes towards teaching. Although the relationship between technology integration and i.success, ii.motivation, iii.teacher beliefs, and iv.effectiveness has been studied thoroughly, the relationship between technology integration beliefs and attitudes towards teaching as a subject has not been studied. Nonetheless, instruction theories and curriculum development programs are based on the features of the learners so that they would enhance the instruction designed according to their needs and skills (Sparmacher, 1950). From this point, this study aimed to illustrate the relationship between technology integration beliefs and attitudes towards teaching as a subject. Although the aspects of motivation and success were studied for students, pre-service teachers and in-service teachers, the investigation of attitudes towards teaching as a subject has been neglected in the literature. Although students are claimed as technology-fonders, the re-definition of teaching experience and attitude has not been studied. In this sense, there were two questions directing this study:

i. Is there a relationship between attitude towards teaching as a subject and technology beliefs of pre-service teachers?
ii. Is the attitude towards teaching as a subject predictable from technology beliefs of pre-service teachers?

THE STUDY

The study was designed as a quantitative study as group dispositions are better illustrated via quantitative methods (Black, 1999). Quantitative studies supply an overlook at the issues and draw the general features or relationships (Neuman, 2005). Among three types of quantitative research (descriptive, explorative and evaluative), explorative quantitative method was chosen as it gives the related features or reasons of a phenomena or issue (Black, 1999) and non-experimental quantitative method was used as the non-intervened attitudes and beliefs were investigated.

Though non-probability sampling, convenient sampling is chosen for this study to save time and energy for the researcher aligned with the 'practicality' element of researches. At the Faculty of Education at a state university in Istanbul, Turkey, 164 3rd year students consisted the sample. The departments of the pre-service teachers in the sample were: Primary School Science Education (36), Social Sciences Education (36), Primary School Education (45), Turkish Education (25), and Primary School Mathematics Education (22). There were 130 female and 34 male students.

For data collection tool, questionnaire is selected for this research because it is efficient in terms of time, cost (Oppenheim, 1992) and identification of the underlying patterns (Bryman, 1988). As the technology integration beliefs and attitudes towards teaching as a subject were investigated, two questionnaires were used to compare these two tendencies. The questionnaire measuring attitudes towards teaching as a subject was a one-dimension scale and developed by Üstüner (2006). The original questionnaire was revised by two other experts and some items were omitted. For this study, Cronbach alpha score of attitudes towards teaching as a subject scale was found .89 (>.60) for 31 items. The questionnaire to measure technology tendencies of pre-service teachers was developed by Tınmaz (2004) as a two-dimension scale. One of the dimensions is 'belief of positive effect of technology' measuring pre-service teachers' beliefs of positive effects of technology integration while the other one is 'effects of undergraduate program' measuring the positive effects of undergraduate program on pre-service teachers' opinions about their technology integration skills. Factor and item analyses were carried out in the pilot test by Tınmaz. Reliability Cronbach alpha score was found as .94 (>.60) for 17 items in the belief of positive effect of technology sub-dimension while the same score was found .90 (>.60) for 11 items in the second sub-dimension of the technology integration scale (effects of undergraduate program) by the researchers. Researchers carried out the data collection themselves and explained the purpose of the study and the way of usage of the data to pre-service teachers before they filled in questionnaires. Two questionnaires were given to pre-service teachers at the same time to prevent any other variable affect the data.

As for the analysis of the data, quantitative methods and tools were benefited. "Statistical Package for the Social Sciences17 (SPSS17)" was used to analyze the data as SPSS gives a clear output of the data and the most often used tool for social sciences (Büyüköztürk, 2013). For the overall investigation of attitudes towards teaching and technology integration belief, descriptive statistics was used with minimum, maximum, mean and standard deviation scores. To measure the relationship between technology integration beliefs and attitudes towards teaching as a subject, Pearson correlation and Regression analyses were used. The assumptions of both tests were ensured.

FINDINGS

The answers of pre-service teachers were entered in SPSS program and data was analyzed according to dimensions of questionnaires. Regardless of their departments, students' answers to items were first analyzed descriptively to reach a comparison of technology and teaching attitudes of pre-service teachers (Table 1). It was observed from descriptive statistics that although with a high standard deviation, mean score of attitudes towards teaching as a subject is much higher than belief of positive effect of technology ($Mean_{teachingattitude}$=111.83 > $Mean_{positiveeffect}$=67.47, $Sd_{teachingattitude}$=22.79 > $Sd_{positiveeffect}$=13.48). The interval of minimum and maximum values of teaching attitude scale was wider than positive effect of technology scale. This showed that pre-service teachers had more different attitudes towards teaching as a subject that their beliefs of positive effects of technology. Also, the sub-dimension of 'effects of undergraduate program' is regarded rather lower than the positive effect belief sub-dimension ($Mean_{positiveeffect}$=67.47 > $Mean_{undergraduateeffect}$=33.42). When looked at the minimum and maximum values of undergraduate program effect on technology integration, the widest value interval was observed. This meant pre-service teachers had the lowest and highest degrees of beliefs of undergraduate positive effect on technology integration skills. It could be concluded that students had a higher positive attitude towards teaching as a subject than they believed in positive effect of technology. However, they did not believe the positive effect of undergraduate program on their technology integration skills.

Table 1: Descriptive Statistics of Two Questionnaires

	N	Minimum	Maximum	Mean	Std. Deviation
Attitudes Towards Teaching as a Subject	163	20.00	151.00	111.8322	22.79800
Belief of Positive Effect of Technology	163	18.00	85.00	67.4785	13.48448
Effects of Undergraduate Program	163	2.00	55.00	33.4214	11.16186

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The correlation analysis was carried out with Pearson correlation as the variables were found linear (Büyüköztürk, 2003). When the relationship between attitudes towards teaching as a subject and beliefs of technology integration was analyzed (Table 2), a low correlation was found between attitudes towards teaching as a subject and effects of undergraduate program on technology integration (r=.230<.30, p=.005<.05). Besides, a low and significant correlation was found between attitudes towards teaching as a subject and belief of positive effects of technology on education (r=.184 < .30, p=.025<.05). Although the mean score of effects of undergraduate program was lower than belief of positive effect of technology ($Mean_{positiveeffect}$=67.47 > $Mean_{undergraduateeffect}$=33.42), a higher correlation was found between positive effect of undergraduate program and attitudes towards teaching as a subject. Furthermore, a medium correlation was found between belief of positive effect and effects of undergraduate program (.30>r=.458<.70, p=.000<.05).

Table 2: Correlation of Attitudes towards Teaching as a Subject and Technology Integration Beliefs

		Belief of Positive Effect of Technology	Effects of Undergraduate Program	Attitudes Towards Teaching
Belief of Positive Effect of Technology	Pearson Correlation	1	,458**	,184*
	Sig. (2-tailed)		,000	,025
	N	163	163	163
Effects of Undergraduate Program	Pearson Correlation	,458**	1	,230**
	Sig. (2-tailed)	,000		,005
	N	163	163	163
Attitudes Towards Teaching	Pearson Correlation	,184*	,230**	1
	Sig. (2-tailed)	,025	,005	
	N	163	163	163

As a correlation was found between attitudes towards teaching and technology integration beliefs, regression analysis was available to test the second question of this study. The predictability of attitudes towards teaching as a subject from beliefs of technology integration was tested via linear multi-regression analysis in SPSS17. The assumptions of regression analysis were justified. Although the mean score of effects of undergraduate program was lower than belief of positive effect of technology ($Mean_{positiveeffect}$=67.47 > $Mean_{undergraduateeffect}$=33.42), the predictability of attitudes towards teaching as a subject is possible from beliefs of effects of undergraduate program, not beliefs of positive effect of technology ($p_{positiveeffect}$=.262>.05, $p_{undergraduateeffect}$=.046<.05). Pre-service teachers' beliefs of positive effects of technology over education did not predict their attitudes towards teaching as a subject. However, pre-service teachers' beliefs of undergraduate program effect on technology integration skills predicted their attitudes towards teaching as a subject.

Table 3: Regression Analysis

Model	Unstandardized Coefficients		Standardized Coefficients	t	p	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
Belief of Positive Effect of Technology	.171	.152	.103	1.127	.262	.794	1.260
Effects of Undergraduate Program	.378	.188	.184	2.012	.046	.794	1.260

CONCLUSIONS

When the two questionnaires were analyzed descriptively, it was observed that students believed least in the positive effects of undergraduate program on their technology integration skills. When the program in Faculties of Education was analyzed, no course about technology integration was confronted in the university where data was collected. Also, Turkish Republic Higher Education Council Presidency (Türkiye Cumhuriyeti Yüksek Öğretim Kurulu Başkanlığı) does not open a must course about technology integration at universities (2007). Thus, it aws understandable that pre-service teachers did not have high beliefs about the positive effect of undergraduate program on their technology integration skills. However, pre-service teachers' attitudes towards teaching as a subject and their beliefs of positive effects of technology were high as expected.

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In addition, technology beliefs of pre-service teachers and their attitudes towards teaching were compared and it was assumed that pre-service teachers would have beliefs that are convenient for the students of this age. From this point of view, pre-service teachers would have positive beliefs of technology as students of this age are called as 'net generation' (Tapscott, 2008). As it is suggested that education should be adjusted according to learner characteristics (Tobias, 1994), it would not be dreaming to expect pre-service teachers have correlated their teaching attitudes with technology integration. However, it was found that there was a low correlation between attitudes towards teaching as a subject and both sub-dimensions of technology integration belief questionnaire.

Belief of positive effect of technology on teaching and education dimension of technology integration scale provided insight of pre-service teachers' opinions about the possible positive effect of technology on their instruction and students' learning. This dimension was correlated with attitudes towards teaching as a subject (r=.184) although this correlation was rather low. Actually, this result showed pre-service teachers did not regard technology integration as a component of their future teaching activities. That was why they did not have a bond between positive effect of technology on education and their attitudes towards teaching as a subject. For the sample of this study, it would be possible to say that they did not regard technology integration as a fundamental part of teaching activity. Or, it also would be possible to state that pre-service teachers did not believe in the positive effects of technology on students' learning as Howard suggests (2013). Another explanation why the correlation between attitudes teaching as a subject and beliefs of positive effects of technology on teaching or student learning would be that pre-service teachers did not regard students of this era as 'native speakers of technology' and thus, they did not see technology integration as a need for education (Bennett, Maton & Kervin, 2008).

Also, a low and significant correlation(r=.230, p=.005) was found between positive effect of undergraduate program and attitudes towards teaching as a subject although it was higher than the correlation between belief of positive effect of technology on education and attitudes towards teaching as a subject. Although there was a need for qualitative analysis to explain this issue, it could be asserted that pre-service teachers saw a relationship between undergraduate program and teaching attitudes. As they learned teaching at university, it is possible that they imaged teaching as a subject according to the education they received at the Faculty of Education. However, as in many studies (Plowman & McPacke, 2013; Fenty & Anderson, 2014; Rehmat & Bailey, 2014) the fact that the correlation was higher for undergraduate program effect could be suggested that pre-service teachers needed a course for technology usage in classrooms to regard technology integration as a part of their subject.

To conclude, although correlation and regression analyses pointed a higher bond between effect of undergraduate program and attitudes towards teaching as a subject, the explanation of this issue needs a further qualitative analysis.

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The Research Of Secondary School Students' Scıence Educatıon Self-Effıcacy Level

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ABSTRACT
The objective of this research is to look into the science education self-efficacy levels of the secondary school students. In the study, quantitative method of research and relational screening model were used. As a data collection tool, Self-efficacy Scale towards Science and Technology (SESST) developed by Tatar et al. (2009) was used. The sample of the study consists of the students taking education in some public secondary schools in İstanbul. For data analysis, SPSS 20.0 and ANOVA were used. As a result of data analysis, the Science Education self-efficacy levels of secondary school students are found to be at a good level. Science Education self-efficacy levels of secondary school students are not meaningful in terms of gender, whereas it displays a meaningful difference for the class level. However, a meaningful difference has been observed regarding the educational status of parents. The place of the experiments and by whom the experiments are held do not display a meaningful difference, on the other hand the frequency of the experiments and the approach intended for the experiment show a meaningful difference.

INTRODUCTION
Self-efficacy refers to people's judgements about their capability to perform particular tasks and their level of confidence in their skills (Bandura, 1997). The higher a person's self-efficacy is, the greater is the person's ability to cope with challenges (Bandura and Adams, 1977). Self-efficacy also affects people's thoughts, feelings, motivations and actions (Bandura, 1995). As a result of these effects, self-efficacy belief reflected to behaviors, determine the effort people make, their determination and their levels of entrepreneurship (Yalmancı and Aydın, 2014). In recent years, the concept of self-efficacy takes more place in relation to learning and motivation theories, compared to self and self-confidence concepts (Şahin, 2013). One of the most important reasons, self-efficacy belief explains more about performance of the individuals compared to other concepts related to learning (Bong and Skaalvik, 2003; Ferla, Valcke and Cai, 2009). Teachers and students have some believes related to their capabilities in teaching and learning science. This self-perception about their personal skills in science has been suggested as the reason for success along with motivation in science learning environment and the skills for accomplishing required tasks. These type of believes are known as self-efficacy believes and they are different from self-confidence and self-respect that target at certain actions in the future. As all self-efficacy believes including the ones related to science teaching and learning can be shaped, and there is a causative relation for success, it is useful to include them in planning aimed at improving science teaching (Evans, 2014). It is indicated that, studies conducted on self-efficacy belief focus on high school and university students (Usher, 2009). In our country, most of the studies on self-efficacy belief have been carried out on teachers and teacher candidates (Çapri and Çelikkaleli, 2008; Çetin, 2008; Yılmaz and Çimen, 2008; Terzi and Mirasyedioğlu, 2009; Azar, 2010; Coşkun, 2010; Çalışkan, Selçuk and Özcan, 2010; Durdukoca, 2010; Maden, 2010; Yılmaz, Yılmaz and Türk, 2010; İpek and Acuner, 2011). The number studies conducted on secondary school students is very few (Çetin, 2009; Arslan, 2012; Arslan, 2013). As secondary school is a period of time, during which the individual acquires basic science concepts and develops either positive or negative attitude towards science, self-efficacy perceptions of students play an important role in effective science education.

THE PURPOSE OF THE STUDY
The purpose of this study is; studying self-efficacy levels of secondary school students in science. With this aim, the following questions were studied;

1- What are self-efficacy levels of secondary school students in science class?
2- Do self-efficacy levels of students in science vary in relation to; gender, class, educational levels of the mother and the father, where the experiments take place (laboratory or class), who conducts the experiments, experiment frequency, attitude towards experiments (like or dislike of experiments)?

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METHODS OF THE STUDY

Quantitative research method has been applied in this study.

Research Model: The research is in relational screening model. In the relational scanning model applied in this study, defining the relationship between special events in order to reach certain goals or the existence of and/or the degree of change between one or two or greater number of variables were studied.

Sample of the Research: 1354 students studying in 6th, 7th and the 8th grade at some public secondary schools in İstanbul make up the sampling of the study. Of the students who participated in this study; 651 (48.1%) are girls, 703 (51.9%) are boys students. 453 (33.5%) of the students study in 6th grade, 441 (32.6%) study in 7th grade and 460 (34.0%) study in 8th grade.

Data Collection Instruments: Self-efficacy Scale towards Science and Technology (SESST) developed by Tatar, Yıldız, Akpınar and Ergin (2009) was used in this study. SESST categorized as the five Likert type, and made up of 27 items is in a three factors structure. The factors of the scale are titled by the researchers as; "Confidence in Science and Technology Ability" (CST), "Coping with Difficulties in Science and Technology" (CDS), "Confidence in Performing Science and Technology Tasks" (CPS).

Analyzing Data: In this study, SPSS 20.0 package program was used for data analysis. One-way ANOVA, independent t-test and Post-hoc test techniques have been conducted to monitor the scores taken from the scales in terms of demographic varieties.

FINDINGS

In this part of the study, the data is discussed and interpreted with regards to the questions of the study.

Question 1: What are self-efficacy levels of secondary school students in science class?

Science class self-efficacy scale score averages have been found as 101.5960 (Table 1).

Table 1: Students' Science Self-efficacy Scale Levels.

Scales	X	SD	SE
"Confidence in Science and Technology Ability" (CST)	57.8560	10.68853	.29047
"Coping with Difficulties in Science and Technology" (CDS)	20.2511	5.25257	.14275
"Confidence in Performing Science and Technology Tasks" (CPS)	23.4889	5.13026	.13942
Total	101.5960	17.28044	.46962

Question 2: Do self-efficacy levels of students in science vary in relation to; gender, class, educational levels of the mother and the father, where the experiments take place (the laboratory or class), who conducts the experiments, experiment frequency, attitude towards experiments (like or dislike of experiments)?

Table 2: t-test results conducted in order to define whether SESST, and the scores from sub factors vary according to the gender variable or not.

Factor	Group	N	X	SD	SE	t-test		
						t	df	p
CST	Girl	651	58.3963	10.09766	.39576	-1.799	1351.092	.072
	Boy	703	57.3556	11.19187	.42211			
CDS	Girl	651	19.9094	5.34468	.20947	2.307	1352	.021
	Boy	703	20.5676	5.14941	.19421			
CPS	Girl	651	24.0077	5.10580	.20011	-3.596	1352	.000
	Boy	703	23.0085	5.10962	.19271			
Total	Girl	651	102.3134	17.41211	.71439	-1.471	1352	.142
	Boy	703	100.9317	17.14322	.64657			

As shown in Table 2, as a result of the t-test applied in order to define whether scores from SESST, and factors show a meaningful difference according to gender variable or not, the difference between arithmetic averages for total scale scores wasn't found as statistically meaningful. For CDS factor, the result was found meaningful in favor of male students and for CPS factor, the result was found meaningful in favor of female students.

As a result of the ANOVA conducted to define whether the total scores from SESST, show a meaningful difference or not according to class variable, arithmetic averages of class groups were found statistically meaningful (Table 3).

Table 3: The results of ANOVA applied in order to define whether the scores from SESST vary according to the gender variable or not.

N, X and SD Values					ANOVA Results					
Factor	**Group**	**N**	**X**	**SD**	**Var. K.**	**SS**	**df**	**MS**	**f**	**p**
CST	6th Grade	453	60.1258	10.38590	Between	3516.879	2	1758.440	15.727	.000
	7th Grade	441	56.6100	11.07546	Within	151056.037	1351	111.811		
	8th Grade	460	56.8152	10.26100	Total	154572.917	1353			
	Total	1354	57.8560	10.68853						
CDS	6th Grade	453	21.0508	5.39375	Between	436.121	2	218.060	7.985	.000
	7th Grade	441	19.8186	5.33460	Within	36892.502	1351	27.308		
	8th Grade	460	19.8783	4.94439	Total	37328.623	1353			
	Total	1354	20.2511	5.25257						
CPS	6th Grade	453	24.6269	4.83258	Between	885.974	2	442.987	17.235	.000
	7th Grade	441	22.8458	5.40402	Within	34724.360	1351	25.703		
	8th Grade	460	22.9848	4.96587	Total	35610.334	1353			
	Total	1354	23.4889	5.13026						
Total	6th Grade	453	105.8035	17.08629	Between	12088.321	2	6044.161	20.834	.000
	7th Grade	441	99.2744	17.29752	Within	391935.697	1351	290.108		
	8th Grade	460	99.6783	16.72072	Total	404024.018	1353			
	Total	1354	101.5960	17.28044						

As group variances are not homogenous according to the results of Levene's test applied after ANOVA in order to define among which sub groups the scores from SESST vary according class variable (L=4.136, L=3.368, L=4.301, L=3.044, $p<.05$), one of post-hoc analyses techniques, Tamhane test was chosen. As a result of this test, it was found that 6th grade got high scores at a meaningful level compared to 7th and 8th grade students.

As a result of the ANOVA conducted to define whether the total scores from SESST show a meaningful difference or not according to mother's educational level variable, mother educational level arithmetic averages for SESST were found statistically meaningful (Table 4).

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Table 4: The results of ANOVA applied in order to define whether the scores from SESST vary according to mother's educational level variable or not.

N, X and SD Values					ANOVA Results					
Factor	**Group**	**N**	**X**	**SD**	**Var. K.**	**SS**	**df**	**MS**	**f**	**p**
CST	Elementary	389	56.8792	10.63855	Between	2886.490	3	962.163	8.563	.000
	Secondary	455	56.6176	10.55461	Within	151686.426	1350	112.360		
	High school	388	59.4948	10.38372	Total	154572.917	1353			
	University	122	60.3770	11.30737						
	Total	1354	57.8560	10.68853						
CDS	Elementary	389	19.6915	5.08358	Between	788.779	3	262.926	9.714	.000
	Secondary	455	19.6637	5.32212	Within	36539.845	1350	27.067		
	High school	388	21.0284	5.10426	Total	37328.623	1353			
	University	122	21.7541	5.43224						
	Total	1354	20.2511	5.25257						
CPS	Elementary	389	23.4267	5.09426	Between	626.541	3	208.847	8.059	.000
	Secondary	455	22.6637	5.24836	Within	34983.793	1350	25.914		
	High school	388	24.2371	4.99514	Total	35610.334	1353			
	University	122	24.3852	4.76982						
	Total	1354	23.4889	5.13026						
Total	Elementary	389	99.9974	16.60717	Between	11030.219	3	3676.740	12.630	.000
	Secondary	455	98.9451	17.16217	Within	392993.800	1350	291.107		
	High school	388	104.7603	16.74798	Total	404024.018	1353			
	University	122	106.5164	15.93069						
	Total	1354	101.5960	17.06169						

As group variances were found homogenous according to the results of Levene's test applied after ANOVA in order to define among which sub groups the scores from SESST vary according mother's educational level variable (L=0.424, L=0.836, L=1.753, L=0.041, p>.05), one of post-hoc analyses techniques, Tukey test was chosen. As a result of this test, it was found that the groups with high school or undergraduate degree holder mothers, scored statistically meaningful higher scores compared to groups with primary and secondary school degree holder mothers.

As a result of the ANOVA conducted to define whether the total scores from SESST, show a meaningful difference or not according to father's educational level variable, father educational level arithmetic averages for SESST were found statistically meaningful (Table 5).

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Table 5: The results of ANOVA applied in order to define whether the scores from SESST vary according to father's educational level variable or not.

N, X and SD Values					ANOVA Results					
Factor	**Group**	**N**	**X**	**SD**	**Var. K.**	**SS**	**df**	**MS**	**f**	**p**
CST	Elementary	303	57.4719	11.01948	Between	1400.099	3	466.700	4.113	.006
	Secondary High school	412	56.7184	10.10328	Within	153172.818	1350	113.461		
	University	432	58.3079	10.63048	Total	154572.917	1353			
	Total	207	59.7391	11.20028						
		1354	57.8560	10.68853						
CDS	Elementary	303	20.2277	5.11046	Between	521.152	3	173.717	6.371	.000
	Secondary High school	412	19.4515	5.06215	Within	36807.471	1350	27.265		
	University	432	20.5324	5.25797	Total	37328.623	1353			
	Total	207	21.2899	5.60539						
		1354	20.2511	5.25257						
CPS	Elementary	303	23.8317	4.93884	Between	347.446	3	115.815	4.434	.004
	Secondary High school	412	22.7888	5.04689	Within	35262.888	1350	26.121		
	University	432	23.5718	5.28751	Total	35610.334	1353			
	Total	207	24.2077	5.10951						
		1354	23.4889	5.13026						
Total	Elementary	303	101.5314	17.48637	Between	5898.209	3	1966.070	6.667	.000
	Secondary High school	412	98.9587	16.03633	Within	398125.809	1350	294.908		
	University	432	102.4120	17.63306	Total	404024.018	1353			
	Total	207	105.2367	17.91016						
		1354	101.5960	17.28044						

According to the results of Levene's test applied after ANOVA in order to define among which sub groups the scores from SESST vary according to father's educational variable; for total scores without homogenous distribution, Tamhane test was chosen. ($L=3.389$, $p<.05$). For sub-factors with homogenous group variances ($L=2.279$, $L=0.583$, $L=0.219$, $p>.05$) one of the post-hoc analysis techniques, Tukey test was chosen. According to the results of the tests applied for total and for the CDS factor; it was found that groups with high school and undergraduate degree holder fathers, have meaningfully high scores; for CST and CDS factors, only groups with undergraduate degree holder fathers, have meaningfully high scores compared to groups with secondary school degree holder fathers.

As a result of the t-test applied in order to define whether scores from SESST, and factors show a meaningful difference according to the place where the experiments are conducted or not, the difference between arithmetic averages of groups for total scale scores and factors was not found statistically meaningful.

The results of ANOVA that was done in order to define whether the scores from SESST display a meaningful difference according to who conducts the experiments or not, were found to display no meaningful difference for

total scale score, CDS and CPS factors. For the CST factor that's homogenous, (L=2.398, p>.05) one of the post-hoc analysis techniques, Tukey test was chosen. According to this test, making an experiment with class mates in groups, has meaningfully higher scores compared to making experiments on by own or with teachers.

Table 6: The results of ANOVA applied in order to define whether the scores from SESST vary according to with whom the experiments are made variable.

N, X and SD Values					ANOVA Results					
Factor	**Group**	**N**	**X**	**SD**	**Var. K.**	**SS**	**df**	**MS**	**f**	**p**
CST	Myself	57	57.6491	9.01089	Between	1030.131	2	515.065	4.532	.011
	With group	530	58.9358	10.31927	Within	153542.786	1351	113.651		
	Teacher	767	57.1252	10.99869	Total	154572.917	1353			
	Total	1354	57.8560	10.68853						
CDS	Myself	57	19.0000	5.30162	Between	129.826	2	64.913	2.358	.095
	With group	530	20.1038	5.62759	Within	37198.797	1351	27.534		
	Teacher	767	20.4459	4.96351	Total	37328.623	1353			
	Total	1354	20.2511	5.25257						
CPS	Myself	57	22.0175	6.06362	Between	133.288	2	66.644	2.538	.079
	With group	530	23.4830	5.36641	Within	35477.045	1351	26.260		
	Teacher	767	23.6023	4.87222	Total	35610.334	1353			
	Total	1354	23.4889	5.13026						
Total	Myself	57	98.6667	14.98372	Between	1081.186	2	540.593	1.813	.164
	With group	530	102.5226	17.36499	Within	402942.832	1351	298.255		
	Teacher	767	101.1734	17.36018	Total	404024.018	1353			
	Total	1354	101.5960	17.28044						

As a result of the ANOVA conducted to define whether the total scores from SESST show a meaningful difference or not according to the frequency of the experiments variable, frequency of experiments arithmetic averages for SESST and factor scores were found statistically meaningful (Table 7).

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Table 7: The results of ANOVA applied in order to define whether the scores from SESST vary according to the frequency of the experiments.

N, X and SD Values					ANOVA Results					
Factor	**Group**	**N**	**X**	**SD**	**Var. K.**	**SS.**	**df**	**MS**	**f**	**p**
CST	Always	46	61.0000	11.46201	Between	3085.869	3	1028.623	9.167	.000
	Often	165	60.3091	10.30843	Within	151487.048	1350	112.213		
	Sometimes	922	57.9121	10.35294	Total	154572.917	1353			
	Never	221	55.1357	11.56639						
	Total	1354	57.8560	10.68853						
CDS	Always	46	18.9783	6.18058	Between	440.483	3	146.828	5.373	.001
	Often	165	21.5212	5.44326	Within	36888.141	1350	27.325		
	Sometimes	922	20.2484	5.11880	Total	37328.623	1353			
	Never	221	19.5792	5.29917						
	Total	1354	20.2511	5.25257						
CPS	Always	46	21.9565	6.88301	Between	538.924	3	179.641	6.915	.000
	Often	165	24.3455	5.36890	Within	35071.410	1350	25.979		
	Sometimes	922	23.6800	4.92822	Total	35610.334	1353			
	Never	221	22.3710	5.15380						
	Total	1354	23.4889	5.13026						
Total	Always	46	101.9348	18.84251	Between	8016.382	3	2672.127	9.109	.000
	Often	165	106.1758	17.27219	Within	396007.637	1350	293.339		
	Sometimes	922	101.8406	16.83140	Total	404024.018	1353			
	Never	221	97.0860	17.86176						
	Total	1354	101.5960	17.28044						

As group variances were found homogenous according to the results of Levene's test applied after ANOVA in order to define among which sub groups the scores from SESST vary according to frequency of experiments variable for CST, CDS factors and the total (L=0.746, L=1.620, L=1.141, p>.05), one of post-hoc analyses techniques, Tukey test was chosen. As a result of this test, for all the groups, the ones that make experiments often were found to have meaningfully higher scores compared to those who make sometimes make experiments or makes no experiments. For the CPS factor that doesn't have homogeneous distribution, Tamhane test was chosen (L=5.492, p<.05). According to this; the ones who often or sometimes make experiment were found to have meaningfully higher scores compared to those who never makes experiments.

As a result of the ANOVA conducted to define whether the total scores from SESST, show a meaningful difference or not according to the like or dislike of experiments variable, arithmetic averages of groups for SESST and factor scores were found statistically meaningful (Table 8).

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Table 8: The results of ANOVA results applied in order to define whether the scores from SESST vary according to the like or dislike of experiments variable.

N, X and SD Values					ANOVA Results					
Factor	**Group**	**N**	**X**	**SD**	**Var. K.**	**SS**	**df**	**MS**	**f**	**p**
CST	Yes	1090	58.9881	10.15784	Between	7579.525	2	3789.763	34.831	.000
	No	76	51.2105	13.38488	Within	146993.391	1351	108.803		
	Sometimes	188	53.9787	10.64546	Total	154572.917	1353			
	Total	1354	57.8560	10.68853						
CDS	Yes	1090	20.6541	5.21992	Between	963.147	2	481.573	17.891	.000
	No	76	17.8684	6.05605	Within	36365.477	1351	26.917		
	Sometimes	188	18.8777	4.59143	Total	37328.623	1353			
	Total	1354	20.2511	5.25257						
CPS	Yes	1090	24.1844	4.81293	Between	3377.566	2	1688.783	70.783	.000
	No	76	18.1053	5.78637	Within	32232.768	1351	23.858		
	Sometimes	188	21.6330	4.90317	Total	35610.334	1353			
	Total	1354	23.4889	5.13026						
Total	Yes	1090	103.8266	16.57191	Between	30703.390	2	15351.695	55.556	.000
	No	76	87.1842	18.03383	Within	373320.628	1351	276.329		
	Sometimes	188	94.4894	16.32867	Total	404024.018	1353			
	Total	1354	101.5960	17.28044						

As group variances were found homogenous according to the results of Levene's test applied after ANOVA in order to define among which sub groups the scores from SESST vary according to like or dislike of experiments variable for the CPS factor and the total group variances, ($L=2.460$, $L=0.466$, $p<.05$), one of post-hoc analysis techniques, Tukey test was chosen. As group variances were not homogenous for CST and CDS factors ($L=5.761$, $L=6.159$, $p>.05$) Tamhane test was selected. As a result of these tests, for total and sub factors, the group who said "yes" to the question if they like experiments was found to have meaningfully high level of scores compared to the groups that said "no" or "sometimes".

CONCLUSIONS

In this study, whether Science Self-efficacy Levels of secondary school students vary according to various variables or not was studied. First of all, it was found that, self-efficacy levels of secondary school students in general total don't vary according to gender, on the other hand, it was found that, it varies in CDS factor in favor of male students, while in CPS factor, it varies in favor of female students. While the finding that self-efficacy doesn't vary according to gender displays similarity to some studies (Chu, 2003; Altunçekiç, Yaman and Koray, 2005; Çakır, 2005; Gerçek, Yılmaz, Köseoğlu and Soran, 2006; Şahin, Gülay Ogelman and Ekici, 2011; Kıran and Sungur, 2012), there are findings of some studies that show that there is difference between male and female students (Britner and Pajares, 2006; Üredi and Üredi, 2006; Joet, Usher and Bressoux, 2011). Britner and Pajares (2006) studied science self-efficacy of secondary school students and found out that female students have higher self-efficacy. According to the findings, science self-efficacy of secondary school students decreases from first years to the last years. It is a very interesting result that self-efficacy levels of 6th grade students are the highest, and it decreases to lower levels in 8th grade. This means that, over time students are losing their self-confidence in solving a problem when they face with a challenge. The reason for this, is thought to be graduation anxiety of last

grade students and the preparation stress for Transition from Primary Education to Secondary Education (TEOG) exam. Schunk and Pajares (2001) expressed that, school programs make students acquire some skills and as class-level increases, these skills develop, so self-efficacy levels of students should increase over time as well. In studies conducted by Karaaslan and Sungur (2011); it was reported that gender and class level doesn't have an effect on primary school 5th-8th grade students' science self-efficacy belief that can make a meaningful difference. In this study, it is seen that as mother-father education level increases, students' self-efficacy levels increase. When the support mother and father educational status provides to students is taken into account, it is regarded as one of the most important variables that explain, self-efficacy believes of students. According to the results of the study, the place where the experiments take place (laboratory or class) isn't important for students, and making experiments as group work is more important for students than who makes the experiments. In terms of frequency of experiments, it was found that, experiments must be made more often. It was also found as a result of this study that students enjoy making experiments. One of the most important aims of science education is, to bring the complexity of the natural world or its problems to classroom or laboratory environment, teach students how to deal with these challenges and by repeating these applications often, reflecting this knowledge and success at school, to daily life, and ensuring that students are individuals who believe in themselves and have high self-efficacy levels. As indicated in other studies, self-efficacy perception is a feature that needs attention (Koray, 2003; Yaman, 2003). Individuals with highest level of self-efficacy perception about any situation, make more effort to accomplish any task they undertake. When they face with obstacles, they fight until they resolve the problem (Dorman, 2001; Ritter, Boone and Rubba, 2001). Today, as in all fields, in science education, it is very important that students have high levels of self-efficacy.

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The Significance Of Motivational Factors As Determinants For The Development Of Girls' Mathematical Talent

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ABSTRACT
Although there is a consensus on the fact that both sexes are equally talented across all academic domains, in Germany girls are in proportion decidedly underrepresented in support programs that aim at mathematically talented children. Thus, it is of interest to ascertain aspects that might make possible a more differentiated identification and support. This calls for a holistic approach, which among other factors may include motivation. In this article, an interview study will be reported focusing on the significance of the motivational factors mathematical self-concept, attributions and mathematics interest as determinants for the development of mathematical talent at primary school age. All probands were identified to be talented by taking part in an enrichment-project called "Mathe für kleine Asse". The study's impressions indicate that talent-identification produces positive developments of motivational factors especially with girls, since their characteristics seemed to be more disadvantageous compared to boys before talent-identification, but there could not be found any remarkable differences afterwards, i.e., after taking part in "Mathe für kleine Asse", and the girls perceived mathematics as a domain in which they have high abilities only after taking part in the project and developing more advantageous characteristics of the regarded motivational factors. Thus, disadvantageous characteristics of motivational factors might be an important factor to explain girls' underrepresentation in support programs.

INTRODUCTION
Similar to other western and northern European countries, girls are in Germany proportionally underrepresented in programs that foster mathematical talents (Benölken, 2011). This phenomenon contradicts the consensus on the fact that both sexes do not differ in their potentials across all academic domains (Endepohls-Ulpe, 2012). As to primary school children, aspects such as gender stereotyping of mathematical occupational fields cannot really act as explanations, especially because there cannot be found any gender-specific differences in mathematical competencies at this early age (Lindberg, Hyde, Petersen & Linn, 2010), and studies have indicated a decline of such differences at subsequent ages for many years (Hyde, Lindberg, Linn, Ellis & Williams, 2008). This is why it is of interest to look for aspects that improve both the identification and the support of girls' mathematical talents. With a holistic approach, diagnostics should consider both cognitive and co-cognitive, e.g. motivational, parameters as determinants in order to identify mathematical talent. Boys, e.g., mostly show advantageous characteristics of motivational factors as to doing mathematics independently of an identification of particular talents; in contrast, girls very often show disadvantageous characteristics, but if high potentials were identified with them by taking part in support programs or the like, there cannot be found any essential differences in comparison to boys (Benölken, 2014; 2015). Findings like these raise the questions if there are any effects of talent-identification on the development of advantageous characteristics in regard to motivational factors, and if such developments might influence the development of talents. In this article, the significance of mathematical self-concept, attributions and mathematics interests as examples of motivational factors as determinants for the development of mathematical talent at primary school age will be examined by a qualitative interview study. Its aim is to investigate possible developmental processes as to these factors by comparing characteristics before and after talent-identification with boys and girls by a retrospective view considering possible effects on the development of talents. First, theoretical frameworks of the regarded motivational factors will be presented, and based on brief literature reviews about research on these factors in the field of gender and high abilities, the relevance of conducting studies about their significance as determinants for the development of talent will be constituted more deeply. Afterwards, the design and the results of the study will be reported and discussed.

PRELIMINARY NOTES ABOUT MATHEMATICAL TALENT
According to Fuchs and Käpnick (2009), in this article "mathematical talent" is seen as an above-average potential regarding the criteria of Käpnick (1998), i.e., remembering mathematical facts, sensitivity and fantasy, structuring and transferring structures or reversing thoughts. This potential is characterized by individual determinants and a dynamic development depending on inter- and intrapersonal influences in interdependence with personality traits supporting the talent. Therefore, diagnostics should be organized as a long-term process applying a synthesis of standardized and non-standardized tools, and focusing on both cognitive and co-cognitive parameters. The reported view on "mathematical talent" provides the base of diagnostics procedures of "Mathe für kleine Asse" (a metaphor like "Math for small pundits"), a long-term enrichment-project at the University of Münster to foster

children between the third and the eighth grade (see Käpnick, 2008): As a first step, at the beginning of the third grade, teachers of schools in Münster elect children corresponding to Käpnick's criteria and suggest a participation in the project. In a second step, children can visit the project to get to know its organization and atmosphere. In a third step, they have to fill in a half-standardized introductory test (organized as a competition) containing "indicator tasks" that operationalize Käpnick's criteria. Simultaneously, the process-diagnostics begin and continue as long as the children take part in the project considering both cognitive and co-cognitive parameters. Therefore, (half-) standardized tools like tests that are similar to the introductory one or amending IQ-tests (e.g., the "CFT-20") as well as non-standardized tools like observational protocols (e.g., Fuchs & Käpnick, 2009), interpretations of transliterated video documentations or interviews are applied (e.g., Benölken, 2011). In this manner, an impression of the children's individual talents gradually emerges.

THEORETICAL FRAMEWORKS AND BRIEF LITERATURE REVIEWS

Preliminary note: Existing research in the field of motivational factors like self-concept, attributions or interest mostly either focuses on gender-specific aspects or on a combination of gender- and ability-related aspects. When it comes to the phenomenon of exceeding abilities, studies mostly refer to the psychological view on "giftedness" as a "g-factor-" conception, which partially differs from the illustrated view on the development of "mathematical talent". Thus, such findings cannot be transferred automatically to mathematically talented children. Subsequently, existing findings of both gender-specific aspects and the combination of gender- and ability-related aspects will be reported. In this context, different conceptions as to both high abilities and the regarded motivational factors will be included, since, altogether, they indicate the significance of the regarded motivational factors in the complex of gender and high abilities, in particular as to mathematical abilities.

Self-concepts: The conception of self-concept applied in the study refers to Shavelson, Hubner & Stanton (1976): Self-concepts develop globally and domain-specifically containing both cognitive-evaluative and affective components. Studies indicate that self-concepts can already be found with primary school children (Marsh, Craven & Debus, 1991). As early as at this age, gifted and non gifted children differ in their global- and domain-specific self-concepts (Rost & Hanses, 2000). In contrast to global self-concepts (Rost & Hanses, 2000), gender-specific differences can be found in domain specific ones (Rustemeyer & Jubel, 1996). Boys often show better self-concepts in mathematics (Pohlmann, 2005), girls in social or verbal skills (Valtin & Wagner, 2002). Disadvantageous mathematical self-concepts are considered to be an important reason effecting that primary school girls do not tend to a strong preoccupation with mathematics (Dickhäuser & Stiensmeier-Pelster, 2003). Obviously, boys and girls who were identified to be mathematically talented (in the sense of the above reported view) as well as boys who were not mostly show advantageous characteristics of mathematical self-concepts, but girls who were not identified often show disadvantageous characteristics (Benölken, 2014).

Attributions: The construct of attributions refers to reasons that an individual provides to explain his or her achievements. The conception applied in the study refers to Weiner (1986) who basically distinguishes attributions into the dimensions of "locus of control" and "stability". Older studies show that as early as at primary school age and irrespectively of certain domains, especially in mathematics, girls tend to attribute disadvantageously, i.e., success external-unstably and failure internal-stably. Conversely, boys tend to attribute advantageously, i.e., success internal-stably and failure external-unstably (Rustemeyer & Jubel, 1996). Contemporary studies indicate that girls (even if they are gifted) more often tend to internal-unstable attributions of success, and boys still tend to internal-stable ones (Dickhäuser & Meyer, 2006; Tirri & Nokelainen, 2011). Gifted children generally attribute more advantageously than non-gifted children (Schütz, 2000). In addition, boys and girls who were identified to be mathematically talented (in the sense of the reported view) as well as boys who were not mostly tend to advantageous attributions of both mathematical success and failure, while girls who were not identified often attribute disadvantageously in each case (Benölken, 2014).

Mathematics interest: The conception of interest applied in the study refers to Prenzel, Krapp and Schiefele (1986): Interest is seen as a result of an interaction between a person and an object that along with adjuvant conditions might cause to focus on a long-term preoccupation with it. This relation is characterized by value-related, affective and cognitive aspects. Additionally, in accordance with current approaches on a multidimensional interest structure, a distinction between subject-, context- and topic-related interest was considered (Krapp, 2010). The first two dimensions were summarized in the term of "mathematics interest in the classroom" because it cannot be expected that primary school children differ between activities and contexts applied in classrooms (Hellmich, 2006). The third one is referred to by the term "mathematics interest beyond the classroom". Primary school children often have a lot of interests like sports, TV, computer games or reading (Pruisken, 2005), and gender-specific differences can already be found at this early age (Hoberg & Rost, 2000): horseback riding, animals or reading seem to be "typical" interests of girls; football, technics or computer "typical" interests of boys (Fölling-Albers, 1995). Boys more often show stronger mathematics interest – even at primary school age and both in and

beyond the classroom; girls interest in language or literature (Hellmich, 2006; Pruisken, 2005). Though gifted children show the same differences, they do not have any extraordinary interests compared to non-gifted children. However, gifted children generally seem to be more interested in both mathematics and languages or literature (Pruisken, 2005). In contrast to non-gifted girls, gifted girls have more interests which are supposed to be "typical" interests of boys, and they have a larger spectrum of interests than gifted boys (Kerr, 2000). The majority of primary school children seems not to differ between mathematics interest in and beyond the classroom (Hellmich, 2006). Regarding specific mathematical talents (in the sense of the reported view), girls irrespectively of talent-identification more often show a larger spectrum of interests than boys (Benölken, 2014). However, boys seem to show stronger mathematics interest in the classroom compared to girls independently of talent-identification, but girls who were identified to be mathematically talented are more similar to the boys than to girls who were not identified – they show a lower mathematics interest as to this aspect than all other groups (Benölken, 2015; similar to Pruisken, 2005). Boys and girls who were identified to be mathematically talented as well as boys who were not show stronger mathematics interest beyond the classroom than girls who were not identified. In addition, only children who were identified to be talented seem to differ between mathematics interest in and beyond the classroom showing stronger interest beyond the classroom, while children who were not identified took similar stances in both cases on average (Benölken, 2015). Furthermore, there are only very few studies with a focus on ability-related mathematics interest. Their findings indicate that the mathematics interest of students with lower achievements exceeds that one of higher achievers (Frenzel, Goetz, Pekrun & Watt, 2010), but these studies do not focus on gifted or talented students. Finally, an often reported phenomenon is a decline of mathematics interest in the years of adolescence (Fredricks & Eccles, 2002), which is of little importance when conducting studies with primary school children.

Retrospection and deeper rationale of the study: Even if existing empirical research mostly focuses on the phenomenon of exceeding abilities as a "g-factor-" concept, the results collectively show, however, the significance of self-concepts, attributions and interest in the field of emphasizing important aspects to improve the identification and support of girls' mathematical talents: The findings indicate that there seem to be typical differences between girls and boys as to characteristics of these factors, especially as to the comparison of the four groups of girls and boys who were assessed to be gifted or talented, and girls and boys who were not: First, boys show advantageous characteristics independently of an identification of giftedness or talent more often than girls. Second, girls who are assessed to be gifted or talented mostly show characteristics which can be compared to boys, while girls who are not often rather show disadvantageous characteristics. Thus, disadvantageous characteristics of motivational factors might play an important role to explain the infrequent identification of high potentials with girls, since such findings indicate the significance of the regarded motivational factors as determinants for the identification of giftedness or talent. However, the question is obvious if there can be found any developmental effects of giftedness- or talent-identification. As far as we are aware, there is a lack of studies focusing on (1) possible effects of giftedness- or talent-identification on the development of motivational factors like self-concepts, attributions and interest, and consequently (2) possible effects of such developments on the development of talents. This desideratum provides the starting point of the reported study.

THE STUDY

Questions: The study focuses on the significance of exemplary motivational factors as to their significance as determinants for the development of mathematical talent. The following questions will be investigated: (1) Can be found any effects of talent-identification on the development of mathematical self-concepts, attributions and mathematics interest with girls and/or boys who were identified to be mathematically talented? (2) Can be found reciprocal effects of possible developments of mathematical self-concepts, attributions and mathematics interest on the development of mathematical talents with such girls and/or boys?

Design: The study's character is explorative. It is not intended to deduce generalizations, but at the most existential propositions (see Lamnek, 2010) about possible effects of talent-identification. Thus, a qualitative design was advisable, since it seems to be most appropriate to investigate questions of developmental processes with single cases. Because of the process diagnostics applied in the project "Mathe für kleine Asse" which provided the base in order to elect probands, a retrospective design seemed to be most suitable.

Sample and procedure: The sample contains N = 6 children of the third grade (3 f; 3 m) taking part in "Mathe für kleine Asse" for almost one year. They are assessed to be talented by long-term process-diagnostics according to the reported view on mathematical talent. In addition, it is a theoretical sampling (Lamnek, 2010), since their election depended on long-term observations focusing on interesting facts according to the study's questions. The probands were questioned at the end of the school year of 2013/2014 during sessions of "Mathe für kleine Asse" in a separated room. Each interview was recorded on audiotape and transliterated.

Method and analysis: It was intended to ensure that interpretations of each child's developmental processes could

be as consistent as possible. Therefore, a synthesis of statements of both each child and his or her parents was conducted, especially because it cannot be expected that primary school children are able to reflect every single aspect. Considering the theoretical frameworks of the regarded motivational factors, problem-centered interviews using interview guides seemed to be the most appropriate method as to the questions of the study. Of course, typical stages of problem-centered interviews were observed (see Lamnek, 2010): In the preamble of the children-interview, the interviewer introduced himself and proposed the interviews' theme (*"I would like to know how you like mathematics today and, maybe, how you liked it when you were younger"*; the original phrasing was German in all cases). Then, the children were asked to introduce themselves and to present some first thoughts about the interviews' focus to create both a pleasant atmosphere and confidence as well as to get first impressions. With regard to the general exploration, stimuli and questions about characteristics of the regarded motivational factors were asked (according to the theoretical frameworks; see the example of table 1) supplemented by a question focusing on the retrospective developmental perspective in each case. Additionally, possible differences between mathematics interest in and beyond the classroom were emphasized in the context of asking the mathematics interest questions *("I would like to know how you like mathematics in and beyond the classroom. 'Mathematics in the classroom' focuses on everything you do in mathematical school lessons. 'Mathematics beyond the classroom' focuses on, e.g., mathematical activities or themes in your life beyond mathematical school lessons or even outside the school."*). At the end, direct ("ad hoc") questions about aspects that had not been discussed yet or that demanded deeper clarifications were posed, especially focusing on possible developmental trends as to specific components of each motivational factor's framework and as to the self-perception of talent. The procedure of the parents-interview was similar to the children-interview: In the preamble, the interviewer introduced himself and proposed the interview's theme, but then, first, some questions focusing on general information like important facts in the child's physical, psychological and academic development were posed to create a faithful atmosphere and to get some data aiming at a characterization of the child. Then, the parents were asked to present some first thoughts about the interviews' focus. With regard to the general exploration, stimuli and questions about characteristics of the regarded motivational factors were asked considering the theoretical frameworks of the regarded motivational factors supplemented by a question focusing on the retrospective developmental perspective in each case (see the example of table 1). Additionally, the term of "self-concept" was explained (*"Self-concepts describe an individual's view on his or her characteristics and skills"*; cf. Moschner & Dickhäuser, 2006), and possible differences between mathematics interest in and beyond the classroom were emphasized analogically to the children-interview. Finally, direct questions about aspects that had not been discussed yet or that demanded deeper clarifications were posed like in the children-interview.

self-concept (children-interview)	cognitive-evaluative aspect	*How would you describe your mathematical skills?* [in addition, if necessary: *Do you think you are very good at mathematics?*]
	affective aspect	*How do you feel solving difficult mathematical tasks?*
	developmental perspective	*Has this always been the case? Even before taking part in "Mathe für kleine Asse"?* [twice asked, i.e., for each component]
self-concept (parents-interview)	cognitive-evaluative aspect	*How would you describe your child's mathematical self-concept? Please explain your answer.*
	affective aspect	*How does your child feel solving difficult mathematical tasks?*
	developmental perspective	*Did your child's mathematical self-concept change because of taking part in "Mathe für kleine Asse"? Did your child's feelings solving difficult mathematical tasks change because of taking part in "Mathe für kleine Asse"?*

Table 1: Example of operationalizing questions in the children- and parents-interview's guide.

Data were interpreted applying a combination of typical stages of both problem-centered interviews' analysis and qualitative interviews' interpretative-reductive analysis (Lamnek, 2010): (1) Transcription: The interviews were transliterated using the relatively simple system of Bardy (2007). All transcripts are available from the author. Of course, we are aware that a transcript is a first interpretation. (2) Methodological annotation: Text types were pre-structured, e.g., into descriptions or narrations. (3) Controlled interpretation (developing thematic trends and construction of thematic matrices): Data were interpreted independently by a group of experts to ensure an interpersonal valid interpretation as far as possible. In addition, thematic trends were emphasized as to possible developmental trends of the regarded motivational factors between before and after talent-identification with each of the probands. These trends were composed into thematic matrices representing the content of each interview in a synopsis to get an accumulation of all impressions. In the matrices, both self-concept and mathematics interest (in and beyond the classroom) were coded as "+", if the impressions of all answers in the respective contexts were

positive, as "0", if the impressions differed between, e.g., positive and negative, and as "–", if all impressions were negative. Attributions of mathematical success were coded as "+", if they seemed to be internal-stable, as "0", if internal-unstable, and as "–", if external (-stable or -unstable). As to mathematical failure, the assignment was turned around, i.e., attributions were coded as "+", if they seemed to be external-unstable, as "0", if external-stable, and as "–", if internal (-stable or -unstable). In each case, possible developmental trends were considered focusing on possible characteristics of the motivational factors before and after talent-identification. If a positive developmental process could be supposed, it was coded as "+", if there seemed to be no or not a strong positive effect, it was coded as "0", and if a negative developmental process could be supposed, it was coded as "–". Finally, statements that could not be interpreted properly were coded by "x" in all cases. (4) Comparative systematization (classification and abstraction): Based on the thematic matrices, "typical" characteristics were identified. However, it was not intended to ensure representativeness, but typical representations considering a holistic and realistic view. As a consequence, the probands were classified into groups, which seemed to differ from each other, and a case-example of each group was chosen to present exemplary illustrations of the interpretations. This was the base to get abstractions and topic-related descriptions about the significance of the regarded motivational factors as determinants for the development of talent.

FINDINGS

As to the *controlled interpretation*, table 2 shows the thematic matrix that was constructed as a result of interpreting thematic trends, i.e., it summarizes impressions of the regarded motivational factors' characteristics before and after talent-identification within the children- and parents-interviews supplemented by perceptible developmental processes. The impressions shown in table 2 indicate that positive developmental trends of self-concept and mathematics interest beyond the classroom can be assumed after talent-identification with girl 1, while her attributions of failure seem to develop slightly positively and it is not possible to take any stances about her attributions of success. There seems to be a decline of her mathematics interest in the classroom. Then, positive developmental trends of self-concepts, attributions of success and mathematics interest beyond the classroom can be supposed with girl 2, but it is not possible to judge the development of her attributions of failure (which seem to be disadvantageous despite talent-identification). Her mathematics interest in the classroom has always been strong. Finally, positive developmental trends of attributions of success and mathematics interest beyond the classroom can be assumed with girl 3, but her self-concept and her attributions of failure have obviously been constantly positive, and there seems to be a decline of her mathematics interest in the classroom after talent-identification. In addition, positive influences of both talent-identification and the reported developmental processes of motivational factors on the emergence of talents were described in all interviews with the girls. The impressions shown in table 2 indicate that there cannot be assumed any or at least only very slight developmental trends of the regarded motivational factors after talent-identification with boy 1, since all regarded factors have obviously been rather positive before talent-identification and afterwards. Then, self-concept, attributions of success and mathematics interest beyond the classroom have obviously been constantly positive with boy 2, but there might be a slight decline of his mathematics interest in the classroom and it is not possible to judge the development of his attributions of failure. Finally, there cannot be supposed any strong developmental trends as to self-concept, attributions and mathematics interest beyond the classroom with boy 3, since these factors have obviously been positive before and after talent-identification. In addition, there seems to be a further decline of his mathematics interest in the classroom after talent-identification. Overall, there cannot be found any descriptions of influences of talent-identification on the emergence of talents with the boys, since all of them have shown a strong preoccupation with mathematics and their potentials have been perceived by themselves, their parents and teachers from an early age. This might fit to the interpretations, that there cannot be found strong developmental processes of motivational factors with anyone of the boys.

roband/ motivational factor	before talent-identification		after talent-identification		developmental process
	children interview	parents interview	children interview	parents interview	
girl 1					
self-concept	0	0	+	+	+
attributions of success	x	x	0	x	x
attributions of failure	–	x	0	x	+
mathematics interest in the classroom	+	0	–	0	–
mathematics interest beyond the classroom	0	x	+	+	+

(table will be continued on the following page)

girl 2					
self-concept	0	–	+	+	+
attributions of success	–	x	+	0	+
attributions of failure	x	x	–	–	x
mathematics interest in the classroom	+	+	+	+	0
mathematics interest beyond the classroom	0	–	+	+	+
girl 3					
self-concept	+	0	+	+	0
attributions of success	0	x	+	x	+
attributions of failure	x	+	+	+	0
mathematics interest in the classroom	0	0	–	0	–
mathematics interest beyond the classroom	–	0	0	+	+
boy 1					
self-concept	+	+	+	+	0
attributions of success	x	+	0	+	0
attributions of failure	x	0	+	0	0
mathematics interest in the classroom	+	+	+	+	0
mathematics interest beyond the classroom	0	+	0	+	0
boy 2					
self-concept	+	+	+	+	0
attributions of success	+	x	+	+	0
attributions of failure	x	x	+	0	x
mathematics interest in the classroom	+	+	+	0	–
mathematics interest beyond the classroom	+	+	+	+	0
boy 3					
self-concept	+	x	+	+	0
attributions of success	+	+	+	+	0
attributions of failure	+	+	+	+	0
mathematics interest in the classroom	–	0	–	–	–
mathematics interest beyond the classroom	+	+	+	+	0

Table 2: Thematic matrix of motivational characteristics and developmental processes.

As to the *comparative systematization*, table 3 summarizes the developmental processes of the regarded motivational factors between before and after talent-identification with girls and boys from table 2.

motivational factor	girl 1	girl 2	girl 3	boy 1	boy 2	boy 3
self-concept	+	+	0	0	0	0
attributions of success	x	+	+	0	0	0
attributions of failure	+	x	0	0	x	0
mathematics interest in the classroom	–	0	–	0	–	–
mathematics interest beyond the classroom	+	+	+	0	0	0

Table 3: Summary of developmental processes between before and after talent-identification.

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Noticeable positive effects of talent-identification can be found with all female probands, even if they have shown positive characteristics of single components before talent-identification (see table 2). In addition, some of the interview statements could not be interpreted properly and there cannot be supposed developmental processes in very few cases (e.g., as to the attributions of failure with girl 2). Interestingly, girl 1 and girl 3 seem to show a lower mathematics interest in the classroom after talent-identification. In contrast, there cannot be found any strong developments of the regarded motivational factors caused by talent-identification with all male probands which are similar to the reported effects with girls, since positive characteristics of self-concepts, attributions and mathematics interest beyond the classroom have already appeared before talent-identification, even if some of the interview statements could not be interpreted properly and there cannot be supposed a developmental process as to the attributions of mathematical failure with boy 2. However, in the thematic matrix it cannot be proposed that there are some rather slight positive effects of talent-identification with boys implying that, even though these characteristics have been positive very early, they became slightly more advantageous by taking part in "Mathe für kleine Asse". For instance, the mother of boy 2 describes his mathematical self-concept as very advantageous before school-enrolment (and, thus, before talent-identification), but it became still slightly better because of the project-participation (*"I guess, maybe a little. He is allowed to do stuff that he likes, e.g., thinking outside the box. And he realizes that he is able to do it, even if he has actually realized it before taking part in the project."*). On the one hand, this observation confirms the significance of talent-identification on the development of advantageous motivational characteristics. On the other hand, the effects seemed to be really small compared to the girls; in particular, as opposed to the girls, the boys' characteristics of the regarded motivational factors have already been advantageous before talent-identification more often. Thus, these effects seem to be of rather little importance aiming at a final classification, i.e., determining typical developmental processes of motivational factors with girls and boys. Finally, as to mathematics interest in the classroom, the impressions indicate similar developmental effects as shown by girl 1 and girl 3, since boy 2 and boy 3 seem to show a lower mathematics interest in the classroom after talent-identification. In addition, positive influences of both talent-identification and developmental processes of motivational factors on the emergence of talents were only described with the girls. Thus, the findings indicate that two groups can be classified: There can be found similar positive developmental processes of the regarded motivational factors within the group of girls related to at least two of these factors in each case. In contrast, there cannot be found any strong positive trends within the boys' group. Thus, the boys' group obviously differs from the girls' group. In addition, both the girls and the boys seem to differ between mathematics interest in and beyond the classroom, which might be, e.g., concluded by different characteristics and a decline of mathematics interest in the classroom with some of the probands after talent-identification. In what follows, the typical developmental characteristics of the girls and the boys will be illustrated by the contrasting single cases of girl 2 and boy 3. In this context, possible effects of the development of motivational factors on the development of talent will be exemplarily discussed, too.

Girl 2 attends the third grade. She has been taking part in "Mathe für kleine Asse" for about one year. Girl 2 can be characterized as rather reserved, but helpful and inquisitive. She has a lot of interests like playing "Lego", computer games, playing the piano, gymnastics, horse riding, and playing with friends. Her favorite school subjects are music and mathematics, and she likes science teaching. Before school enrollment, girl 2 did not show any noticeable mathematics interest, but afterwards mathematics became one of her main focuses as to her interests in the classroom. In contrast, her mathematics interest beyond the classroom emerged not before succeeding in the "Math Kangaroo" and taking part in "Mathe für kleine Asse", i.e., after procedures of talent-identification (however, mathematics still queues into her other interests). An analogue observation can be made with her mathematical self-concept, since girl 2 realized her mathematical potential only by succeeding in the "Math Kangaroo" and by taking part in "Mathe für kleine Asse": Before school enrollment and before the mentioned procedures of talent-identification, she describes her mathematical self-concept as rather disadvantageous (*"Do you know 'Math Kangaroo'? We took part in this competition and I won the first prize. Because of that, I assessed myself to be better in mathematics, since before I believed 'This will not work!'"*). Similar effects can be observed with her attribution of mathematical success as well. In the meantime, girl 2 tends to internal-stable attributions of success, but she reflects a change (*"Today, I like mathematics and I know I can solve mathematical tasks, which I didn't know a few years ago."*). In contrast, her attributions of mathematical failure can be characterized as internal-unstable, i.e., relatively disadvantageous. Overall, the example of girl 2 illustrates the possible significance of talent-identification on the development of advantageous motivational factors. Her mathematical self-concept and her mathematics interest beyond the classroom have become more advantageous only after the identification of her high mathematical potential. However, her patterns of attributions indicate that there might be a long-term developmental process of advantageous motivational factors which still might be ongoing. Thus, talent-identification seems to have an important effect on developing advantageous motivational characteristics with girl 2, and maybe her parents and teachers did not perceive her high mathematical potential early because of disadvantageous characteristics. As to the significance of the regarded motivational factors as determinants for the development of mathematical talent, the identification of her talent and the positive development of her

motivational characteristics caused that girl 2 perceived mathematics as a domain in which she has high abilities.
Boy 3 attends the third grade and he has been taking part in "Mathe für kleine Asse" for about one year, too. He can be characterized as rather reserved and sensitive, but really inquisitive and persistent, in particular when he is solving mathematical tasks. He uses to spend a lot of time with his older brother, but he rarely plays with other children. Boy 3 likes playing tennis, golf and football, and he shows interest in some rather academic domains like playing chess, visiting a museum and doing mathematics. In particular, solving mathematical tasks plays an important role in his life. For instance, beyond taking part in "Mathe für kleine Asse", he attends a program aiming at the development of special skills in mental arithmetic by doing "vedic mathematics", and he dedicates a lot of time at home to doing mathematics (often together with his brother). However, his spectrum of interests can be characterized as rather small, and mathematics is obviously the main focus: For instance, he often preferred taking part in "Mathe für kleine Asse" to simultaneous football trainings. Thus, his mathematics interest beyond the classroom can be seen as really strong. His favorite school subjects are German and art, and he likes science teaching as well. In contrast, boy 3 assesses mathematics in the classroom to be boring, since he had learned most of the contents taught at school on his own before. Both he and his parents have known about his high mathematical potential before school enrollment, and afterwards, his mathematics teacher perceived it very soon. Because of his large mathematical knowledge, boy 3 attended the fourth grade for some weeks, but the parents and the teacher decided to stop this try because of his social-emotional state of development, since interactions between boy 3 and children of the fourth grade seemed to be problematic. Nevertheless, it is typical of boy 3 to learn mathematical contents of higher grades autonomously. For instance, he can deal with fractions, and his father supposes that the mathematical knowledge of boy 3 would be much more appropriate to secondary school children. Even if boy 3 has already shown a strong mathematics interest beyond the classroom before taking part in "Mathe für kleine Asse", i.e. before talent-identification, it has become slightly stronger afterwards, which is documented by a further decline of his mathematics interest in the classroom, since he assesses mathematics in the classroom to become more and more boring after taking part in "Mathe für kleine Asse". Similar to mathematics interest beyond the classroom, the mathematical self-concept of boy 3 has been advantageous from an early age. He has liked doing mathematics very early, and he has had many positive experiences by solving difficult tasks that pushed him to further engagements into learning complex mathematical themes. Finally, the father supposes that the attributions of boy 3 have been advantageous at all times. For instance, his attributions of mathematical success can be characterized as internal-stable and his attributions of failure primarily as external-stable today (e.g., as to the question why he could solve difficult tasks, he answered *"Because I understand everything."*). Overall, first, there can be found some notes of the significance of talent-identification on the development of motivational factors with the example of boy 3 as well, since taking part in "Mathe für kleine Asse" effected a slight increase of his mathematics interest beyond the classroom, even though he has already shown a strong mathematics interest beyond the classroom before. This assumption seems to be confirmed by the decline of his mathematics interest in the classroom after talent-identification. However, most remarkable are the facts that the characteristics of the regarded motivational factors have already been advantageous before talent-identification and that boy 3 has always seen mathematics as a domain in which he has exceeding abilities, and both his parents and his mathematics teacher perceived his mathematical potential very early.

As to an *abstraction of the reported findings* considering the questions of the study, first, the chosen prototypic examples of girl 2 and boy 3 indicate, that talent-identification might induce positive developments of motivational factors especially with girls, but the significance of talent-identification on the development of motivational factors can be seen by some observations with the boys as well in principle, since there seem to be some single slight positive effects. Second, the example of girl 2 indicates that many girls might reflect mathematics as a domain related to their potentials not automatically, but increasingly by developing more advantageous factors of motivation, which might be caused by talent-identification. In contrast, the example of boy 3 indicates that the regarded motivational factors' characteristics have been advantageous with many boys from an early age, and that talent-identification does not to play a role similar to the girls as to the development of positive characteristics and as to the emergence of talents. To summarize, motivational factors seem to play an important role regarding their significance as determinants for developments of mathematical talents with girls, since, vice versa, the example of girl 2 indicates that disadvantageous characteristics of such factors might make it more difficult to identify high mathematical potentials, maybe because there are obscured by other interests.

DISCUSSION

In this article, the significance of mathematical self-concept, attributions and mathematics interest – by a distinction between in and beyond the classroom –, as determinants for the development of mathematical talent at primary school age was investigated by a retrospective interview study with three boys and three girls who were identified to be mathematically talented by taking part in a long-term enrichment-project called "Mathe für kleine Asse". Based on brief reviews of existing empirical evidence, the relevance of this focus was constituted. According to the qualitative design, the study's perspective was explorative, and it was not intended to deduce

generalizations, but at the most existential propositions. In principle, the study's impressions indicate that the boys have already shown advantageous characteristics of the regarded motivational factors before talent-identification, i.e. before taking part in "Mathe für kleine Asse", and that all factors' characteristics have been rather constant except from single slight further confirmations. Thus, there seem to be no really effects of talent-identification on the development of advantageous motivational factors, and, additionally, there cannot be found any effects on the emergence of their talents. In contrast, the girls' characteristics of the regarded motivational factors were often disadvantageous before talent-identification, but afterwards they have become more positive. Thus, there seem to be effects of talent-identification causing a development of advantageous characteristics of the regarded motivational factors with these girls. In addition, such developmental processes seem to lead to a more realistic self-perception of talent with girls, since they perceived mathematics as a domain in which they have high potentials only after both talent-identification and developing more advantageous motivational factors.

In combination with findings of quantitative studies which indicate that boys independently of talent- identification show more advantageous characteristics of motivational factors than girls (Benölken 2014; 2015), the results of the reported study might contribute to explain the phenomenon of the infrequent identification of girls' mathematical talents: Observable more advantageous characteristics of motivational factors might cause more efficient diagnostics of boys' talents, maybe since they focus on mathematics very early guided by self-experiences of their potentials which might cause a strong preoccupation with mathematics. Thus, teachers might perceive boys' potentials primarily, since they might be more noticeable for them. In contrast, girls' disadvantageous characteristics of motivational factors might lead to the fact that they do not develop a stronger preoccupation with mathematics and, e.g., turn to different interests, but a positive development of motivational factors might induce a stronger preoccupation with mathematics and, thus, positive effects on the development of their talents. Therefore, the study's findings imply as theses that the development of advantageous motivational factors plays an important role as to the emergence of mathematical talents with girls, and that disadvantageous characteristics seem to be important aspects effecting a more infrequent identification of high potentials with girls. In addition, such motivational factors of course have to be seen in a strong interdependence with, e.g., influences of socialization or gender-specific preferences in solving tasks (Benölken, 2011; 2014).

As to limitations of the study and directions for future research, the theoretical character of the sample has to be discussed: Because of electing certain probands, there might appear developmental effects of motivational factors which can be observed with the sample's probands because of a strong focus of observation, but which cannot be found with other girls and boys. In this context, the explorative character has to be mentioned that is not suited to provide representative results, but that allows to generate hypotheses. Follow-up studies should focus on confirming the reported findings, and maybe include different motivational factors like attitudes, e.g., by longitudinal analyses applying differentiated tools to measure motivational characteristics at different ages of an individual, or at least before and after procedures of talent-identification. The diagnostics procedures of talent-identification applied in the project "Mathe für kleine Asse" have been established for many years. Thus, the probands of the study most probably are rightly assessed to be mathematically talented. In addition, there might be certain effects caused by their participation in this project that cannot be found with children who have high potentials, but who are not taking part in such a program, even if they receive positive feedback about their mathematical potentials. The constructed interview guides and the considered syntheses of children's and parents' perspectives were adequate to the aims of the study in principle. As far as we are aware, both its questions that follow styles of the motivational factors' theoretical frameworks in each case and the retrospective design realized by questions focusing on possible developmental processes of each factor's components and of talents have proven their value. In particular, the children mostly were able to reflect possible developments which seems not to be self-evidently because of their age.

As to a survey of exemplary practical consequences, first, any gender stereotyping of mathematics should be avoided. Second, the development of motivational factors seems to play an important role for girls in order to support their potentials to emerge. In particular, girls should consciously be given opportunities to collect positive experiences with mathematics as early as possible in order to create an adequate self-perception of their mathematical potentials. After school-enrollment, e.g., task-fields that are composed to foster girls especially – without stereotyping – might be useful in this context (Benölken, 2013). Finally, both the distinction between mathematics interest in and beyond the classroom and the decline of mathematics interest in the classroom that was observed with some of the probands indicate the significance of a challenging education, e.g., by using enrichment tasks in common classes (Fuchs & Käpnick, 2009).

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The Significance Of Teaching In A Post-Instructional Age

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This paper is an investigation into the current status of teaching. The rapid rise of online learning in higher education, together with the option to enroll in free MOOCS such as those offered by Coursera (2015) and Kahn Academy (2015), has led many scholars to believe that educational institutions will no longer be necessary in the near future. One might say that a 'post-instructional' age is upon us, and that teaching is an outdated profession. In what follows, I will use philosophical method to argue against this position. Employing the work of philosopher Jacques Derrida, I will make the case that the pending 'post-instructional' age actually clarifies the importance of teachers. Teaching is still very beneficial, but we must understand the particular significance of teaching. As we enter the 'post-instructional' era, there does not currently exist a clear way to demarcate the teacher's role from the role of Highly Effective Learning Technologies (HELT's). Indeed, most discourses on HELT's vis-à-vis teaching tout either the HELT, or the teacher, in a zero-sum game. In contrast, this paper offers a method for conceptualizing teaching in a way that actually advocates the continued importance of, and the need to encourage, teaching.

To begin with, I will use an analytic framework to distinguish teaching from the transference of knowledge, and from the facilitation of learning. It will be pointed out that those who decry the end of teaching assume that teaching is nothing other than instruction and that education is only about learning. Then, using Derrida's notions of erasure and différance as a theoretical framework, I will demonstrate two insights about teaching. First, that teaching itself cannot be equated solely with transferring knowledge and/or fostering learning. Thus, a post-instructional era does not make teaching redundant. Second, I will show how teaching adds to content in unique ways, ways that can never be replaced by replacing the teacher. So while online learning might seem to make the teacher redundant, because teaching is about more than the student's learning, the teacher's role remains central to education even in a 'post-instructional' age.

How the Learning Paradigm Theorizes Education

In this first section, I look into what has been called 'the Learning Paradigm' (Barr & Tagg, 1995). Using a highly influential article on learning in higher education, I identify the way this paradigm has been inadequately defined teaching as direct instruction and/or the fostering of learning. In 1995, Robert Barr and John Tagg published, in *Change: The Magazine of Higher Education*, the article entitled "From Teaching to Learning: A New Paradigm for Higher Education" (Barr & Tagg). This article has been sited by more than 2,000 scholars, and is often referred to as *the* ground-breaking work for a shift in focus from university instruction to university *learning*. The article serves as a touchstone in spite of the fact—or perhaps because of the fact—that K-12 educators had been making a shift from instruction to learning for decades already, long before 1995 (Bloom et al., 1956). As Gert Biesta has pointed out, the shift to learning has roots in both progressivism and constructivism throughout the 21st Century (2005). Thus, when Barr and Tagg's article is used as indicative of a move from instruction toward learning, it should be acknowledged that such a move has deep roots in educational theory. Barr and Tagg's article gives a push toward learning, and away from instruction, on the very last educational frontier, the instructional bastion of the university. Below, a close reading of "From Teaching to Learning" is offered (Barr & Tagg, 1995).

Barr and Tagg's stated aim is to advocate learning in higher education. However, in order to advocate learning, they simultaneously offer an implicit theory of teaching. I focus here on the way teaching is theorized in Barr and Tagg's work. Four main points of "From Teaching to Learning" will be detailed. The points are: 1) that teaching in universities can and should be described as instruction, 2) that teaching (which is the same as instruction) entails the transfer of knowledge, 3) that teaching creates an active teacher and a passive student, and 4) that teaching creates an atomistic method of education. First: that teaching can and should be described as instruction. "In the Instruction Paradigm," note Barr and Tagg, "the mission of the college is to provide instruction, to teach" (1995, p. 15). The apposite "to provide instruction, to teach," is an interestingly ambivalent statement given what is said elsewhere in this publication. On one hand, Barr and Tagg cede the territory of teaching to the domain of instruction. On the other, these authors sometimes indicate that the Instruction Paradigm's version of teaching is just one conception, among others, of teaching: "…the Instruction Paradigm rests on conceptions of teaching that are increasingly recognized as ineffective" (p. 13).

Within Barr and Tagg's article, there is at first a vacillation between teaching *being* instruction, on the one hand, and teaching being *wrongly construed* as instruction, on the other. Ultimately, though, Barr and Tagg settle on the

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former: that teaching *is* instruction. Hence the very title of their article, "From Teaching to Learning" (1995). Implicit in this title is an understanding that teaching is instruction. In the article, the term 'teaching' is used 23 times. It is primarily used within the context of serving the dominant Instructional Paradigm. Statements like "…these Instructional Paradigm teaching and learning structures present immense barriers to improving student learning" leave teaching to instructional ends (1995, p. 20). When Barr and Tagg try to reformulate a form of teaching that compliments their Learning Paradigm, they give up the term altogether, instead using the language of "coaching" "designing" and "inter-acting" (1995, p. 24).

Second: that teaching involves the transfer of knowledge. Along with the assimilation of teaching to instruction, Barr and Tagg follow the assumption that teaching operates primarily in a vehicular manner. What does the teacher do? He or she takes knowledge and delivers it to the student. "In the Instruction Paradigm, a college aims to transfer or deliver knowledge from faculty to students" (1995, p. 15). Delivery of knowledge is used as a way to describe what is wrong with the Instruction Paradigm and, by contrast, what is right about the Learning Paradigm. In stating that delivery of knowledge via lecturing is what teachers currently do, Barr and Tagg, whether in favor of such delivery or not, confirm that their paradigm shift accepts a simplistic model of the transfer of knowledge from teacher to student. Indeed, they are critical of teaching because the teacher relies too often on the transfer of knowledge. In their opinion, knowledge is transferred too much.

Third: that teaching creates an active teacher and a passive student. This presumption relates closely the one above, namely, that teachers transfer knowledge to students. The crux of Barr and Tagg's argument for a new Learning Paradigm centers around the fact that instruction comes from the teacher while learning comes from the learner. Thus, they propose that a focus on teaching is a focus on the actions of the teacher rather than the actions of the student. Citing Alan Guskin, Barr and Tagg affirm, "'the primary learning environment for undergraduate students, the fairly passive lecture-discussion format where faculty talk and most students listen, is contrary to almost every principle of optimal settings for student learning.' The Learning Paradigm ends the lecture's privileged position" (Guskin 1994; Barr & Tagg, p. 13-14). Here, it is assumed, first, that teaching is mainly about transferring knowledge, and, secondly, that such teaching naturally creates passivity on the student's part.

Fourth: that teaching creates an atomistic method of education. For Barr and Tagg, the tradition of teaching creates a situation where discrete courses offer discrete bodies of knowledge. They point out that, following the instructional paradigm, these discrete bodies of knowledge are supposed to mesh and add up to a whole, connected curriculum. They argue that, in reality, students rarely make the necessary connections between these discrete bodies of knowledge. As Barr and Tagg explain, "The teaching and learning structure of the Instruction Paradigm college is atomistic. In its universe, the 'atom' is the 50-minute lecture, and the "molecule" is the one-teacher, one-classroom, three-credit-hour course… The resulting structure is powerful and rigid… It is antithetical to creating almost any other kind of learning experience" (1995, p. 19). Barr and Tagg construe teaching as putting bricks, one by one, on the edifice of knowledge. Students, however, learn in a much more holistic, recursive manner. Their Learning Paradigm, in contrast, will create a seamless learning experience. In sum, Barr and Tagg position teaching as an activity of instructing, delivering knowledge, creating passivity, and fostering atomism.

Given these four main points, it is important to note that the first of Barr and Tagg's points, teaching-as-instruction, is hastily offered as a precondition for the other three mis-educative aspects of teaching. It is instruction—and not necessarily teaching—that lends itself to mis-educative experiences. Yet, Barr and Tagg assume that teaching *is* instruction. The above close reading of Barr and Tagg's seminal work shows that they use a truncated picture of teaching in order to offer a disparaging description of the teaching practices in higher education. If teaching were construed broadly, it might be difficult to say that teaching is responsible for these ills. For example, if teaching were done in such a way that students were led to knowledge rather than given knowledge directly, then transmission would not be a problem. If teaching were carried out so as to empower students, then students would not necessarily remain passive. If teaching were done holistically, then curriculum would not necessarily be atomistic. If teaching were broadly construed to consist of any number of practices other than direct instruction, then teaching would not necessarily have the detrimental outcomes enumerated by Barr and Tagg. But since teaching is assumed to be direct instruction, then the ill-effects of transmission, passivism, and atomism follow rather unproblematically throughout their argument.

By assimilating teaching to instruction, the Learning Paradigm does not take into account broader linguistic and historical discourses on teaching. If one thinks of teaching as a theoretically contestable practice, and not as an institutional practice whose ill-effects are foregone conclusions, then one comes to different conclusions. More precisely, Barr and Tagg offer a stereotype of the spoken word of teachers, whereas philosophers and educational theorists have been debating the very nature of teaching and its language for thousands of years. Certainly Plato, in *The Meno*, would have construed teaching-as-instruction to be a rather hasty stereotype (2015). Barr and Tagg—

and by Barr and Tagg I also refer to decades of Learning Paradigm advocates who have echoed their sentiments—fail to take into account thousands of years of educational context and educational theorizing. Instead, they have aggregated profound, longstanding debates about the nature of pedagogy by introducing a few quick institutional recommendations.

Teaching in a Philosophical Context: More than Simply Instruction

In this section, the Learning Paradigm's account of teaching will be critiqued using the philosophical work of Jacques Derrida. Whereas the Learning Paradigm assumes that teaching is only a matter of instruction, I will argue, along with Derrida, that teaching is always *something more* than instruction. Speaking in 1974 to Greph, the Groupe de Recherches sur l'Enseignement Philosophique,
Derrida describes the phenomenon of teaching as a practice wherein the teacher is called upon to erase him or herself in order to become a mouthpiece for whatever content is under consideration (2002). Or rather, we should say that the teacher is *mistakenly* called upon to erase herself and become such a mouthpiece. It is this assumption that the teacher can be erased that Derrida wants to challenge. Derrida describes the supposed ability of the teacher to erase herself as follows:

> When I say I pose questions, I pretend to say nothing that would be a thesis. I pretend to pose or posit something that at bottom would not pose or posit itself. ...This alleged neutrality, the non-thethic appearance of a question that is posed without even seeming to *pose itself*, is what constructs the teaching body (2002, p. 89).

As Derrida correctly points out, there is a deeply entrenched assumption that teachers can somehow get out of the way and let texts, concepts, ideas, narratives, etc., speak for themselves. This assumption of erasure filters all the way down to the sorts of statements and questions that teachers see themselves as able to pose. The simple act of posing a pedagogical question is, as Derrida points out, steeped in the plausibility of teacher erasure.[4]

In this same lecture, entitled ''Where a Teaching Body Begins,'' Derrida links this matter of erasure not only to the micro-phenomenon of personal pedagogy, but also to the institutional practices of university teaching wherein the professor is supposed to ''erase'' his or her research interests if those research interests do not inform the content of what is being taught in the classroom (2002). As Derrida points out, professors are often called upon to act as if they are blank slates. I, as a professor, am often called upon to let a text speak for itself without me 'interfering' with the text's content. Even if I have organized my own research around the text under classroom consideration, it is assumed that I will not insert my own research into the 'pure' learning of the text. Or at least, it is assumed that I will not do so too forcefully.
Derrida's account of his own erasure is insightful and intimate. (I know that rings true to my own experience as a researcher and teacher.):

> Such dissociation is so well accepted and interiorized on both sides that I myself have been able to abstain almost totally, in the course of the exercises, and partially, in the course of seminars, from implicating work that I pursue elsewhere and that can be consulted in publications. I act as though this work did not exist, and only those who read me can reconstruct the network that, although concealed, of course unites my teaching and my published texts. Everything in the seminar must, in principle, begin at a fictive zero point of my relation to the audience: as though we were all ''complete beginners'' the whole time (2002, p.77).

The university system often calls upon teachers to ignore their research and act like they are beginners. And what's more, the practice of teaching at all levels has a certain mandate of erasure. Here, think of the physics teacher who must teach first year physics as if quantum theory did not exist. Or, think of the first grade teacher who will read, with apparent glee, simple, rhyming verse to his students even though he actually has a taste only for complex prose-poems. As Derrida makes clear, erasure is built into the teaching apparatus at all levels: ''The teaching body (exposed, we will see, like a nonbody simulacrum reducing the body taught to a nonbody, or inversely, which amounts to the same thing, a body reducing a body to nothing but a body or a nonbody, etc)'' (2002, p. 80).

For Derrida, this logic of erasure is none other than the logic of the
signifier giving way to the signified. That is to say, the signifier is in relation to the signified in the same way that the teacher is in relation to whatever is being taught. The teacher acts as a signifier, signifying whatever content

[4] See [author reference].

he or she is called upon to represent. There is thus

> ..a structural invariant in teaching. It originates in the semiotic structure of teaching, the practically semiotic interpretation of the pedagogical relation: Teaching delivers signs. The teaching body produces (shows and puts forward) signs or, more precisely, signifiers supposing the knowledge of a prior signified (2002, p. 81).

If one follows the logic of erasure into the realm of signifiers and signifieds, then it becomes clear why the teacher and her signifiers need, supposedly, to be erased. In order for content to become apparent to the student, the teacher-as-signifier must become a clear window onto content. The teacher must enable the student to see content clearly. The teacher-as-signifier must be erased so that the content-as-signified can come into view in and of itself. In Derrida's words, ''The teaching body, as organon of repetition, is as old as the sign and has the history of the sign. It lives from belief in the transcendental signified" (2002, p. 81). Under the logic of erasure, the signifier stands in an inverse relation to the signified. That is to say, the teacher stands in an inverse relation to content-matter. A teacher's role becomes fulfilled to the extent that he or she becomes erased, while content's role becomes fulfilled to the extent that it becomes clearly visible to the student. As Derrida notes above, this is a precise reiteration of the belief in the transcendental signified. It repeats the belief that the word ''table'' is but an unimportant shadow of the table itself. It repeats the belief that meaning always trumps whatever words we use to represent meaning. Teachers should get out of the way because the meaning of content trumps all.

Derrida's Notion of Différance

Given the above presumption of teaching and its erasure, it is reasonable to situate this pedagogical scene in Derrida's more encompassing work on what he has called "différance" (1976). Derrida's work on différance actually reworks the presumptions of erasure, giving rise to an alternate way to think about the work of the teacher. Indeed, with regard to his own oeuvre, Derrida has made the following notable claim: "Deconstruction or, at least what I have proposed under this name—which indeed is as good as another, but no better—has therefore in principle always concerned the apparatus and function of teaching in general..."(2002, p. 73).[5] Let it suffice here to give a brief introduction to this relation by elucidating Derrida's work on language and différance. Derrida's notion of différance pushes the linguistic distinction between the signifier and the signified to the point where this very distinction becomes problematic. Following the terminology of structural linguistics, the sign is composed of two main parts, the signifier and the signified.[6] The word, ''table,'' for example, is a sign that is composed of a word itself, the ''signifier,'' and the meaning of the word, its ''signified.'' When a person says ''that table,'' she is using a signifier ''table'' to denote some specific signified, some specific table. That is to say, one can understand the meaning of ''zenu'' in the following sentence without knowing beforehand what a zenu is: We all sat down for dinner at the zenu. One can easily guess what ''zenu'' means by virtue of its relation to other signifiers in the sentence. In this sense, there is a slipperiness to the signifier/signified pair. The relation between signifier/signified is contextual rather than intrinsic. A particular signified cannot be mapped to a particular signifier in a constant and unchanging way.

Following Derrida, the signifier has a messy relationship with the signified. It does more than simply signifying the signified. Specifically, it does two things more: When a signifier is in a position to give some meaning, it first defers the very meaning it is supposed to be giving. That is to say, when the word ''table'' is used to mean some piece of wood at which people sit to have dinner, the word table defers the meaning of the actual piece of wood insofar as the signifier stands in for the table but is not, precisely, the table itself. In this way, language always puts the meaning of what it is trying to say at a distance once removed. Language serves to defer meaning even as it is usually assumed to confer meaning. Or take the more socially constructed term, man. When I use the word ''man'' to refer to someone, it is not simply the case that by saying ''man'' in a sentence in reference to that person—it is not simply the case that I have given a precise account of that person's gender by so saying. By saying ''man'' in reference to someone, I have actually reified that person's gender into whatever stereotypes are embodied in that short three-letter word ''man.'' By saying ''man,'' I have not described the person's gender as much as I have kept myself from describing it. I have deferred the meaning of his gender by taking a detour through a stereotyping signifier. To defer is the first meaning of différance.

[5] I have explored the relation between teaching and deconstruction in ([author reference];[author reference]; and [author reference]).

[6] Of course, Ferdinand de Saussure had already identified the slipperiness of the signifier/signified relationship. He had, before Derrida, already observed that the signifier gains its meaning by its relation to other signifiers, rather than by any intrinsic meaning that it carries within itself (1983).

Secondly, a signifier differs meaning at the same time that it is usually assumed to confer meaning. Take again the example of the table. When I say ''table'' to refer to some piece of wood, the use of the signifier ''table'' necessarily depends upon the specific context in which the signifier is used. The word table will indicate a specific table. It will indicate this or that table, or it will indicate a table that I imagine, or that my interlocutor imagines. At any rate, when I say ''table'' there will always be a meaning that is specific to the context in which the word table was spoken. The utterance of a word happens in a specific context, at a specific time, with reference to a specific set of circumstances. The specific context of an utterance makes the meaning of the signifier different from all other uses of the same signifier. It is in this way that language serves to differ meaning at the same time that it is assumed to confer meaning. Each new use of a signifier will differ, at least to some extent, from every past use of the same signifier. This is even more clear when a human-oriented signifier such as ''woman'' is used. Even more than a table that might be mass-produced, each woman is different from another. Yet we use the signifier "woman'' to refer to a particular, unique woman nonetheless. Insofar as the signifier ''woman'' confers meaningful meaning on this particular woman, it confers a meaning that is different from all other possible meanings. In this way, the signifier both differs and defers. Derrida's famous notion of différance denotes this double movement, this vertical slipperiness, of the signifier/signified pair.

Différance in Teaching

Now, given the above account différance, it is possible to theorize the logic of erasure supposedly so central to teaching. As I have shown above, mainstream understandings of teaching assume that the main role of the teacher is to facilitate learning. In other words the teacher's job is to signify content. Yet if the teacher signifies, and content is signified, then, following Derrida, différance will be at play. That is to say, there will be a vertical slipperiness between teaching and content that is completely ignored by the supposed necessity of erasure. The mistaken assumption that teachers can be erased, that they can act as clear windows onto the more serious matter of content—this mistaken assumption disregards the slippery interaction between what-one-teaches and the meaning of what-one-teaches. It disregards the différance of linguistic practices.

When a teacher teaches, he or she cannot simply point to, or signify, some content that is already there just waiting to be understood. Instead, the teacher will defer content as he teaches, and, he will differ content as he teaches. This will happen in the same way that every signifier defers, as well as differs, its signified. When the teacher teaches, she will defer content by representing content in a reified way, in a way that requires the student to go through a detour of teacherly representation before actually arriving at an engagement with the content itself. When I teach about World War II, I am actually creating a reifying detour for my students to go through, a detour that postpones one's self-directed learning about World War II at the same time that it supposedly makes World War II all the closer to the student. And this deferring will happen whether or not the teacher tries to stand back and get out of the way. The presence of a teacher is a presence that points, that signs, whether or not the teacher intends to point or to sign. Even if one's teaching about World War II is not didactic, but is rather progressive and (supposedly) unobtrusive, even so, the very naming of World War II within an academic setting serves to defer World War II. It puts World War II over there, as something that has already been studied, as something that is less of an experience than it is an academic exercise, a detour around real life.

And the teacher will differ content, too. Because teachers do not actually stand in an 'erasable' position, it is impossible that a teacher will be able to offer a lesson that does not change the content of that lesson. The content of one's instruction, no matter how invariable and institutionally driven it may seem to be, is always going to have a particular, unique meaning on it depending upon the circumstances of the teacher's utterance. As Derrida reminds us, ''There is no neutral or natural place in teaching''(2002, p. 69). Interestingly, he does not mean this in the Marxist sense that there is nothing outside of ideology. Rather, he means this to be a post-semiotic statement that there is no signifier that does not have a differing effect on its signified: There is no teacher who does not have a differing effect on his or her content. When a teacher teaches about World War II, there is a performative act of differing.[7] What one says has a context. One speaks from a certain orientation. One has certain aspects of content that one stresses. One chooses what to highlight and what not to highlight. This happens even if one is not conscious of choosing to do so. There is a particular, unique context to each teacherly utterance because speech in not preprogrammed. Speech comes to fruition in its performance. A teacher signifies content at a particular time and in a particular way. His or her content differs as it defers. Teaching, like signing, is subject to différance.

[7] Here I am referring to J. L. Austin's sense of performative insofar as a performative utterance can be said to establish something by virtue of its utterance rather than simply reflecting a pre-existing state of affairs (1962).

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CONCLUSION

To conclude, I would like to compare the presumptions of the Learning Paradigm to Derrida's insights into teaching. And I would like to offer an anecdote from my own experience of a teacher who taught me in university. As Derrida points out, the teacher is always the person who changes content in a unique way. In contrast to the 'learning paradigm' which assumes that a teacher is merely an instructor who erases him or herself, Derrida reminds us that teachers have always done two things to content: the teacher has always deferred content, and the teacher has always differed content. When the Learning Paradigm aims to displace the teacher by displacing instruction, Derrida would remind us that the role of a teacher has never precisely been to instruct in any simple sense of instruction. The teacher has never been one who delivers content in some direct and unproblematic way. The teacher was always he or she who changed content in a unique way. By definition, this person cannot be replace through technology.

When advocates of HELT's predict the end of the teacher, what such advocates ignore is the working of différance. The proposed goal of a learning technology is to provide direct access to content in a way that makes teaching unnecessary. However, teaching cannot be unnecessary because teaching will always add a change to content that cannot be foreseen. Those who predict the end of teaching have actually made a mistake as to what teaching is. They have made a categorical mistake. Teaching puts its mark on content by deferring and differing. Teaching thus actually changes the nature of content in unique ways. This is an aspect of teaching that should only be deleted if one wishes to give up on invention and creativity itself. Content is not simply delivered through the work of a teacher. Content actually takes on various lives through that work. Thus to decry the work of the teacher, far from making content more directly accessible, actually restricts the various iterations of content.

Derrida's analysis shows very clearly that teaching cannot be equated with mere instruction. And because teaching cannot be so equated, it is not the case that the sole role of the teacher is to foster learning. While it is true that students do learn from teachers, it is also true that teaching brings something more. When content is taught, that content is forever changed in unique ways by the teacher. As Derrida puts it, content *differs* when the teacher teaches. In a sense, it not incorrect to say that ours is a post-instructional age. Today is post-instructional in the sense that instruction is no longer necessary if instruction is taken to mean the delivery of content. Certainly, technology can reproduce content delivery on a massive scale. But teaching is not the same as instruction because teaching changes content at the same time that it delivers content. Thus while ours is a post-instructional age, it is not a post-teaching age. What follows a short anecdote that illustrates the significance of teaching as opposed to instruction.

Professor White and Différance

Some thirty years ago, I was taught Shakespeare by a teacher named Professor White. I will never forget the first day of my Shakespeare course. Professor White would enter on the first day, smoking a pipe, grey hair wild and disheveled. He carried a large notebook, about six inches thick, with hundreds of pages of handwritten notes. Slowly he entered, then with a deliberate *thud* he pounded his notebook to the podium.

"This, this…" he proclaimed emphatically, "this, is twenty years of teaching Shakespeare." The students, about 40 of us in a small lecture hall, watched as his pipe smoke wafted in front of us. Silent, impressed, eager, we could not wait to hear his thoughts on The Bard. He had a tome of notes about Shakespeare, yet he would rarely refer to the notes themselves. Whatever the content of his "twenty years of teaching Shakespeare," his lectures, week after week, flowed from memory and wafted around us following the contours of the ephemeral smoke whose sweet odor we became accustomed to as the semester unfurled.

Professor White was a legend around the university campus. He was one of the few teachers students talked about with unbridled enthusiasm. I remember watching my friends imitate his idiosyncrasies at night in the hallways of the dormitory. Young men would copy his speech and turns of phrase as if they were practicing the agile movements of a famous soccer player.

Professor White never told us, in so many words, which of Shakespeare's plays was his favorite. But when it came time for us to read *A Midsummer Night's Dream*, his way of teaching, his level of excitement and creativity, spoke loudly enough that we all sensed the Shakespeare play that was closest to his heart. I will never forget his description of Bottom, the "rude mechanical," the bumbling anti-hero of *A Midsummer Night's Dream*. "Bottom," he would say, "Bottom's name says it all. Bottom is… *the Bottom*." The class would laugh and smile. Professor White's speech would once again be copied that evening in the dorm hallway. As if his words were the lyric of a pop song, a phrase difficult to get out of your head.

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Professor White inspired in me a lifetime of Elizabethan enjoyment. At least once a year, I manage to see a Shakespeare play. And I am lucky enough to live now in a city where a high quality Shakespeare company puts on plays every summer. I have been in the audience of perhaps 70 Shakespeare productions over the years. And my favourite? It is *A Midsummer Night's Dream* of course. And whenever I see one of Shakespeare's plays—no matter where the production, how good or how bad—I always feel that Professor White is there with me. I feel his presence as if he is sitting on my right shoulder in miniature. I remember his pipe and the wafting smoke.

Returning to Derrida, I now realize that Professor White's teachings indeed changed the meaning of Shakespeare for me. One might say that Shakespeare is both deferred and differed by this memorable teacher. Shakespeare is *deferred* in the sense that I cannot help taking a detour through Professor White whenever I attend a Shakespeare play. I cannot help but encountering Professor White, his pipe, the wafting smoke, his tome of notes, square on my shoulder every time I attend a Shakespeare play. Moreover, this teacher has changed, has *differed* Shakespeare for me in the sense that I certainly have a different understanding of Shakespeare resulting from Professor White's influence. If I had come to Shakespeare on my own, or if I had encountered Shakespeare through another teacher, I would no doubt think of Shakespeare much differently. Without becoming overly nostalgic or overly optimistic about great teachers like Professor White, I can conclude with a simple observation. Teachers do more than instruct. They defer and they differ. While instructors might be erasable, teachers are not. A teacher is quite different from a Highly Effective Learning Technology, and so a teacher cannot be replaced by a HELT. The teacher's difference resides in the teacher's différance.

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The Universal Design For Learning Good Practices Inventory

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ABSTRACT
This paper presents the design principles and the development results of the UDLnet Inventory for Good Practices that follow the Universal Design for Learning (UDL) framework. It aims to bridge the gap between theory and practice in applying UDL. Good Practices included in this Inventory incorporate methods, techniques, approaches or lessons, which apply the UDL principles and guidelines. The basic selection criteria for an UDLnet Good Practice were: transferable, adaptable, flexible and effective. Media Resources complement the UDL Good Practices and relate to the pedagogical approach applied by the educationalist and the instructional material used. Collections provide the facility to gather, link, and organize different UDL Good Practices and Media Resources together. The UDLnet Inventory is not static. It is a growing and dynamic space whose main purpose is to stimulate new reasoning and practices and challenge existing ones.

INTRODUCTION
The increasing interest for inclusive education in the last decades mark out that students in a class have: a variety of academic *abilities*, different *backgrounds*, diverse educational *experiences*, different *learning styles*, a variety of *preferences*, different physical or cognitive capabilities (due to a possible *disability*) and are used to instruction at *different paces*. The average student is a myth, as individual capabilities in language, memory, reading, knowledge, perception, cognition, dexterity, etc. can be extended from low to high. The need to respond to learners' variability hasbeen related with the concept of differentiation (Blamires, 1999). A teacher who follows the differentiation approach, proactively plans and carries out a variety of approaches to content, process, and product in anticipation of and response to student differences in readiness, interest, and learning needs (Tomlinson, 2001). Thus, differentiation is a paradigm shift in pedagogical thinking from an approach that works for most learners, towards one that involves providing rich learning opportunities that are sufficiently available for everyone, so that all learners are able to participate in the classroom life (Florian & Linklater, 2010). From another point of view, Universal Design for Learning (UDL) has been proposed (Rose & Meyer, 2002) as an educational framework to guide development of flexible learning environments to accommodate individual learning differences. UDL seeks to increase access to learning by reducing physical, cognitive, intellectual and organizational barriers. UDL is much more complex than we originally thought (Edyburn, 2010). Only a few research studies have provided a comprehensive framework to put the UDL pieces together, in a practical, research

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grounded and efficient way (Ketz, 2013). Thus, challenges and barriers for practice seem to be similar in many countries, where educators are not familiar with UDL (Cooper et al. 2008).

This paper describes the design and development of the UDL Good Practices Inventory to benefit the interesting users in the field (educationalists, teachers, professors, practitioners, etc.). This Inventory has been developed under the UDLnet project (Riviou, Kouroupetroglou & Bruce, 2014), which aims to bridge the gap between policies and practice in applying UDL and to face the associated obstacles. In the next paragraphs, first we present briefly the UDL approach and the UDLnet. Then, the design principles of the UDLnet Inventory, along with the main results of its development are presented.

UNIVERSAL DESIGN FOR LEARNING

Grounded on new research in neuroscience (Hall, Meyer & Rose, 2012) and the Design for All (D4All) principles (Stephanidis, et al.1998), Universal Design for Learning (UDL) constitutes an educational approach that promotes access, participation and progress in the general curriculum for all learners (CAST, 2015). Individuals bring a huge variety of skills, needs, and interests to learning. Neuroscience reveals that these differences are as varied and unique as our DNA or fingerprints. Three primary brain networks come into play: recognition networks, strategic networks and affective networks (Rose & Meyer, 2000; Rose & Meyer, 2002). The following UDL principles provide the underlying framework for the corresponding Guidelines (UDL Guidelines, 2011):

Principle I: Multiple Means of Representation (the "what" of learning). Learners differ in the ways they perceive and comprehend information that is presented to them. Moreover, learning and transfer of learning occur when multiple representations are used, because they allow students to make connections within, as well as between, concepts. The relative UDL Guidelines outline provisions for:

I.a) options of perception (e.g. alternatives to auditory or visual information),

I.b) options for language, mathematical expressions and symbols (e.g. through clarification of structure, text, multimedia, notations, and

I.c) options for comprehension (e.g. by providing guidance and background knowledge, highlighting ideas, patterns and connections, and maximising generalization).

Principle II: Multiple Means of Action and Expression (the "how" of learning). Learners differ in the ways they can navigate a learning environment and express what they know. Some may be able to express themselves well in writing text, but not with speech, and vice versa. It should also be recognized that action and expression require a great deal of strategy, practice, and organization, and this is another area in which learners can differ. The corresponding UDL Guidelines propose to provide:

II.a) options for physical action (e.g. access to a variety of methods, assistive technology and tools),

II.b) options for expression and communication (e.g. multiple media and alternative communication), and

II.c) options for executive functions (e.g. support and facilitation for planning, organising, and managing information and progress).

Principle III: Multiple Means of Engagement (the "why" of learning). Learners differ markedly in the ways in which they can be engaged or motivated to learn. Some learners are highly engaged by spontaneity and novelty. Others are disengaged, even frightened, by those aspects, preferring strict routine. Some learners might like to work alone, while others prefer to work with their peers. The relative UDL Guidelines specify the importance of providing:

III.a) options for recruiting interest,

II.b) options for sustaining effort and persistence (e.g. by varying demands and resources, promotion of collaboration and increase in focus to goals and feedback), and

III.c) options for self-regulation (e.g. by promoting expectations, facilitating personal skills, and developing self-assessment and reflection).

In the first decade of its development, the emphasis in the domain of UDL was on the use of technology to inclusive education and accessibility for the disabled. Rose and Meyer (2002) proposed that UDL is a research-based set of principles that forms a practical framework for using technology to maximize learning opportunities for every student. Thus, when educators hear the term UDL, most associate it with the technology (Zascavage & Winterman, 2009). However, UDL is not solely about the use of technology in education. It is also about the pedagogy, or instructional practices, used for students with and without disabilities (King-Sears, 2009). New developments on the theory and practice of UDL that have emerged underline the importance of instructional pedagogies that facilitate accessibility for diverse learners (Burgstahler, 2012). Recent research findings have proved that UDL can support access, participation and progress for all learners (King-Sears, 2009; Jimenez, Graf & Rose, 2007; Kortering, McLannon & Braziel, 2008; Meo, 2012). However, few have provided a comprehensive framework to

put the UDL pieces together, in a practical, research grounded and efficient way (Ketz, 2013). UDL is much more complex than originally was thought (Edyburn, 2010). Understanding the potential of UDL is seductively easy. Its exponential growth indicates that it may be the right idea at the right time. However, it has proven far easier to help the various stakeholders understand the potential of UDL than it has been to implement UDL on a large scale. Now that more people are "doing UDL," it is not clear what the outcomes are. Udvari-Solner et al. (2005) illustrate ways to apply UDL principles to provide all students with multiple means of representation, multiple means of engagement, and multiple means of expression. To initiate a universal design approach, they advise secondary educators to think about three distinct curriculum access points: content, process, and product. UDL requires collaborative planning amongst teachers with different curriculum knowledge and skills (Nevin, et al., 2004). Complaints that are often raised include lack of time to co-plan and lack of resources to teach a differentiated curriculum.

Web 2.0 constitutes a broad spectrum of digital tools to create, edit, share, discuss, engage, collaborate, and communicate in online media sharing spaces (Solomon & Schrum, 2007). These tools are used to edit, mix, remix, record, and publish content. Web 2.0 tools are interactive and multisensory. These technologies, therefore, are ideal for teachers wishing to apply UDL, i.e. craft flexible, scalable, differentiated activities that are accessible and engaging for reluctant and eager learners alike (Kingsley & Brinkerhoff, 2011). CAST UDL Exchange (CAST UDL Exchange, 2015) is a Web 2.0 base place to browse and build resources, lessons and collections. These materials can be used and shared to support instruction guided by the UDL principles. UDL Exchange facilitates the power of networking to create, remix, and share UDL-informed lessons and activities. According to Edyburn (2010) "as we head into the second decade of doing UDL, it is time for a new generation of thinking about UDL. We need to clarify the core stakeholders (developers or teachers) who will be trained to create UDL products. We need to understand what it means to implement UDL. We need to understand how to measure the outcomes of UDL. Finally, we need to renew our commitment to equitably serving all students in the event that our UDL efforts fall short".

THE UDLNET NETWORK

In order to bridge the gap between policies and practice in applying UDL and to face the associated obstacles identified above, the UDL Network - UDLnet was established (Riviou, Kouroupetroglou, Bruce, 2014). UDLnet (UDLnet, 2015) aspires to address the necessity of collecting and creating good practices under the framework of UDL from a wide range (generic guidelines down to more specific ones) of four envisaged themes: inclusive learning environments, accessible resources, teachers' and school leaders' competences, examination of barriers and identification of opportunities. UDLnet targets 3.500 users in seven countries across Europe (Greece, Ireland, Cyprus, Finland, Netherlands, Germany, Spain) and in six languages.

UDLnet aims to improve teachers' practice in all areas of their work, combining ICT skills with UDL-based innovations in pedagogy, curriculum, and institutional organization. It is also aimed at in-service and pre-service teachers' use of ICT skills and resources to improve their teaching, to collaborate with colleagues, and perhaps ultimately to become innovation leaders in their institutions. The overall objective is not only to improve classroom practice, but also to raise awareness of the European educational community on the need for UDL based teaching and learning practices. The innovation of UDLnet lies within the connection of best practices from various European countries on school/university education and training, open to wide teacher and student communities who will then effectively provide UDL in education.

The UDLnet approach includes the following steps:

- Development of a detailed and systematic methodology to define the criteria for identifying good UDL practices and then operate as the frame for collection and formation of exceptional UDL based teaching and learning approaches
- Design and development of the Web 2.0-based UDLnet Inventory with a collection and categorization of UDL good practices that can support a learning community where users will be able to find, exchange and adapt inclusive teaching and learning practices and exchange ideas and good practices.
- Establishment of a constantly expanding network of educational communities informed on the necessity of UDL based innovative teaching and learning practices and trained accordingly. This network will operate in an independent way, with teachers supplying the educational material and ultimately being responsible for the preservation and further enhancement of the inventory and through Web 2.0-based approaches and tools.
- Collection and development of innovative, relevant and multilingual content that will support the UDL approach, which is described and stored in the UDLnet Inventory.

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- Development of teachers, school leaders, school staff skills and attitudes to ensure the access to and use of UDL based teaching and learning practices under the umbrella of community building. Community building is critical component that enables their success in learning programs by reducing isolation, mentoring success, transforming experiences of exclusion to ones of inclusion, offering encouragement and hope, and fostering group dialogue and peer learning.

UDLnet INVENTORY DESIGN PRINCIPLES

The Inventory developed under the UDLnet is based on the following basic design principles:

- include a collection and categorization of UDL Good Practices, Media Resources and Collections,
- allow for browsing and searching UDL Good Practices with the use of selected criteria or filters,
- allow creating and modifying UDL Good Practices, Media Resources and Collections for the register users,
- support all the target user groups (teachers, teacher educators, educationalists, professors, practitioners, policy makers, etc.),
- apply the criteria for identifying good UDL practices developed in UDLnet,
- be based on Web 2.0 technologies,
- follow the W3C Web Content Accessibility Guidelines (2015),
- designed not as a destination, but as a forum for self-reflection and critical thinking,
- interconnected with the UDL community building which offers facilities for discussion, polls, group creation, activities, events, blogs, etc.

RESULTS

The main UDLnet Inventory (2015) facilities are (Figure 1):

- ***Good Practices***: it incorporate methods, techniques, approaches or lessons, which apply the UDL principles and guidelines proposed by CAST (UDL Guidelines, 2011). They have proven, through experience and experiment, to maximize learning opportunities for every individual student in order to secure inclusive and quality education for all. The basic selection criteria for a UDLnet Good Practice are: transferable, adaptable, flexible and effective.
- ***Media Resources***: complement the UDL Good Practices and relate to the Pedagogical Approach applied by the educationalist and the Instructional Material used. The Media Resources may also be the outcome of a particular lesson or scenario (Riviou & Kouroupetroglou, 2014). *Pedagogy Media Resources*: Good Practices require information to be presented in multiple formats (e.g. extra lesson text, graphics, audio, videos, and online games). *Instructional Materials* describe the content and outcomes of a Good Practice or a lesson, specifically or in broad terms. Examples include: online reading materials (other than the textbook), instructional technologies (e.g., Open Education Resources or Learning Management Systems) and course materials (other than the textbook) such as: Web content, documents (MS-Word, PDF), presentations (MS-PowerPoint), multimedia files (video, audio), games, artifacts and hand-outs.
- ***Collections***: provide UDLnet users with the facility to gather, link, and organise different Good Practices and Media Resources together to meet their specific needs around a particular topic, theme, or class.
- ***Community***: is a portal (UDL Community Portal, 2015) that provides the following facilities to the user: a) join the UDLnet online community and collaborate, b) gain full access to UDLnet online Courses and Workshops and c) obtain full access to UDLnet Training Resources.

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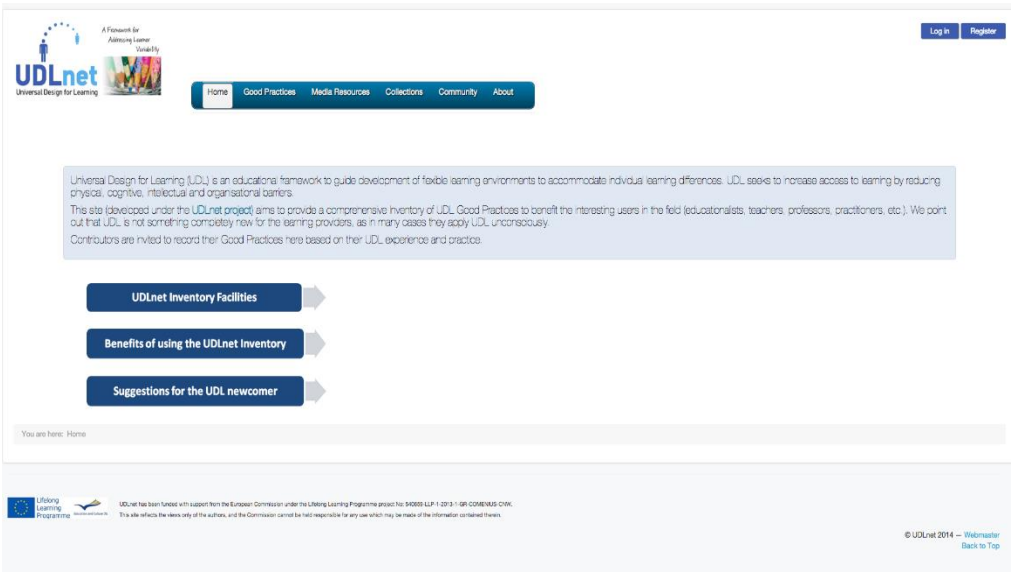

Figure 1: The main UDLnet Inventory facilities.

The UDLnet Inventory provides four types of filtering (Figure 2):

Search by keyword: the user can search between "Good Practices" by a keyword contained in the "Title" or in the "Short Intro" or in the "Keywords" of the "Good Practices".

Search by Main Topic: the user can select among the topics: Applied, Arts, Business Studies, ICT, Languages, Mathematics, Physical, Science, Social Studies and Other.

Search by Education Level: Primary, Secondary, Vocational, All and Other.

Search by Language: English, Dutch, Finnish, French, German, Greek, Italian and Spanish.

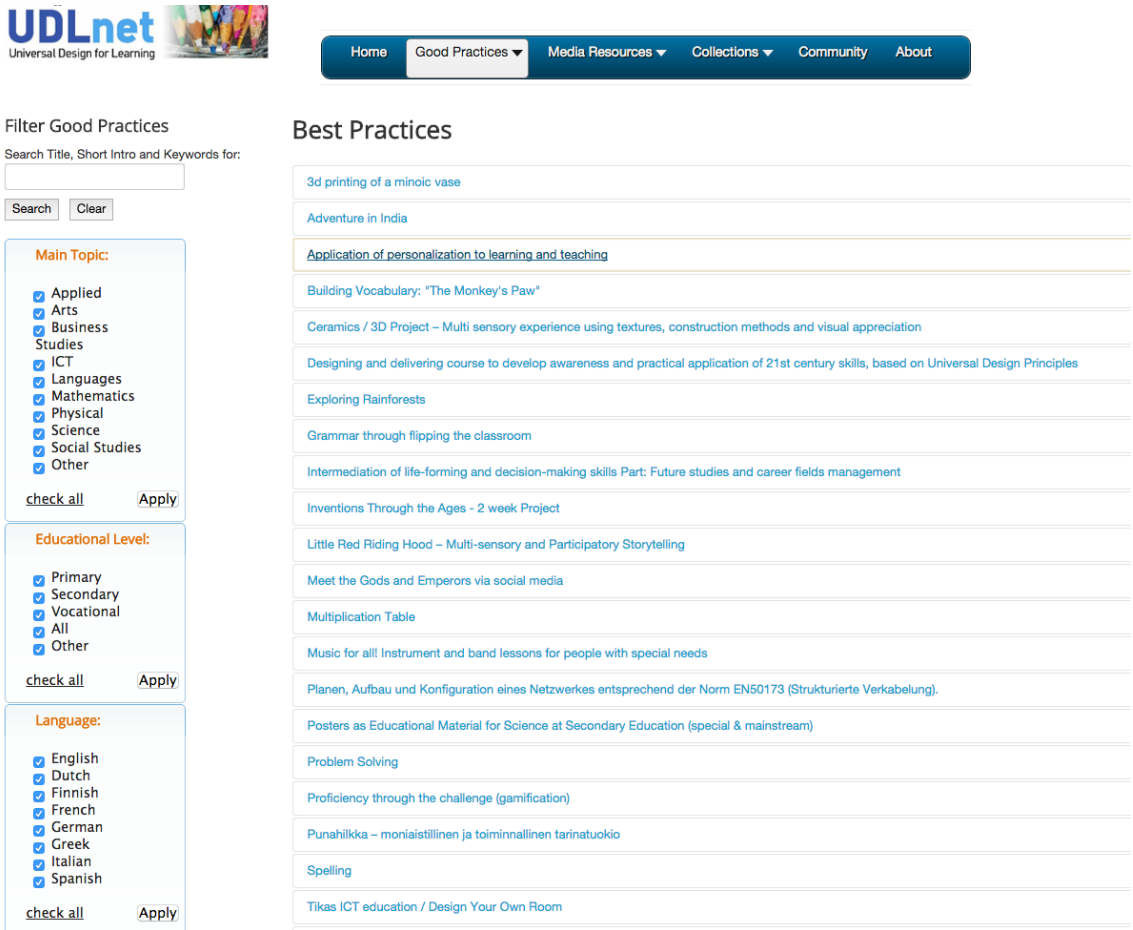

Figure 2: Types of filtering in the UDLnet Inventory.

The fields of the UDL Good Practices include seven sections (Figure 3): Overview, School Context, UDL in Action, Media Resources, Skills & Competences, Assessment and Evaluation/Comments from users. Among them, UDL in Action is the most important: its sections are colour coded according to the CAST guidelines. Each UDL Principle and guideline is listed as a statement with checkboxes to prompt the user to select appropriate options used (users may choose more than one option). Moreover, there is a text box to allow the user to add more details about how each guideline has been implemented. The UDL in Action tab is structured as follows:

Principle I: Information/Instruction offered in different ways

1st Guideline: Relevant information available on the learning objectives and outcomes:

☐ in advance ☐ at any time ☐ temporarily ☐ on demand

2nd Guideline: Information can be assimilated in various ways:

☐ audio ☐ visual ☐ interactive ☐ textual media ☐ printed media

3rd Guideline: The understanding / comprehending of information is supported by providing various options:

☐ mind mapping ☐ illustrations ☐ gamification ☐ practical demonstration

Principle II: Allow the learners to express what they Know in different ways.

4th Guideline: Learner can actively process the necessary information:

☐ individual work ☐ group work ☐ discussion ☐ games

5th Guideline: Learners can show the results of work as:

☐ textual description ☐ individual oral report ☐ group presentation ☐ practical demonstration

6th Guideline: There are different forms of support provided such as …

☐ face-to-face mentoring ☐ online mentoring ☐ feedback on demand ☐ formative self-assessment

Principle III: Learners are engaged and motivated in different ways.

7th Guideline: Different known interests and motivators are addressed such as

☐ personal interests ☐ authentic tasks ☐ choice in context

8th Guideline: Interests and goal attainment as well as resilience are stimulated actively by:

☐ clear goals ☐ practical relevance

9th Guideline: There are opportunities for self- regulation provided:

☐ creative freedom ☐ organizational flexibility ☐ beneficial learning environment

☐ realization of learning goals by independent learning processes

☐ independent diagnosis and assessment of the finished learning process

Other facilities of the UDLnet Inventory allow the user to specify or select: My Good Practices, My favorites Good Practices, My UDL Media Resources, My favorites UDL Media Resources, My Collections of UDL Good Practices and My favorites Collections of UDL Good Practices.

Currently our effort is focused on the collection of innovative, relevant and multilingual UDL content that will feed the UDLnet Inventory. So far 32 Good Practices, 88 UDL Media Resources and 4 UDL Collections are available to the UDLnet community.

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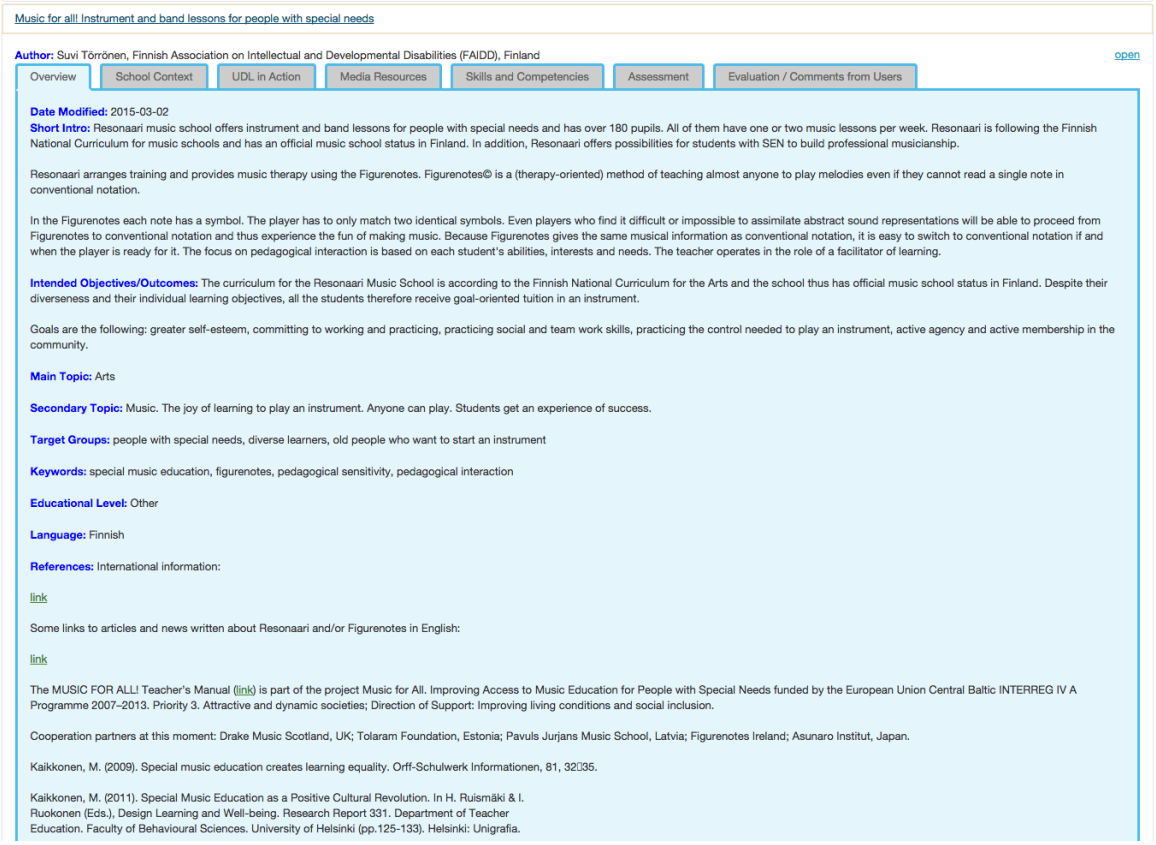
Music for all! Instrument and band lessons for people with special needs

Author: Suvi Törrönen, Finnish Association on Intellectual and Developmental Disabilities (FAIDD), Finland

open

Overview | School Context | UDL in Action | Media Resources | Skills and Competencies | Assessment | Evaluation / Comments from Users

Date Modified: 2015-03-02

Short Intro: Resonaari music school offers instrument and band lessons for people with special needs and has over 180 pupils. All of them have one or two music lessons per week. Resonaari is following the Finnish National Curriculum for music schools and has an official music school status in Finland. In addition, Resonaari offers possibilities for students with SEN to build professional musicianship.

Resonaari arranges training and provides music therapy using the Figurenotes. Figurenotes© is a (therapy-oriented) method of teaching almost anyone to play melodies even if they cannot read a single note in conventional notation.

In the Figurenotes each note has a symbol. The player has to only match two identical symbols. Even players who find it difficult or impossible to assimilate abstract sound representations will be able to proceed from Figurenotes to conventional notation and thus experience the fun of making music. Because Figurenotes gives the same musical information as conventional notation, it is easy to switch to conventional notation if and when the player is ready for it. The focus on pedagogical interaction is based on each student's abilities, interests and needs. The teacher operates in the role of a facilitator of learning.

Intended Objectives/Outcomes: The curriculum for the Resonaari Music School is according to the Finnish National Curriculum for the Arts and the school thus has official music school status in Finland. Despite their diverseness and their individual learning objectives, all the students therefore receive goal-oriented tuition in an instrument.

Goals are the following: greater self-esteem, committing to working and practicing, practicing social and team work skills, practicing the control needed to play an instrument, active agency and active membership in the community.

Main Topic: Arts

Secondary Topic: Music. The joy of learning to play an instrument. Anyone can play. Students get an experience of success.

Target Groups: people with special needs, diverse learners, old people who want to start an instrument

Keywords: special music education, figurenotes, pedagogical sensitivity, pedagogical interaction

Educational Level: Other

Language: Finnish

References: International information:

link

Some links to articles and news written about Resonaari and/or Figurenotes in English:

link

The MUSIC FOR ALL! Teacher's Manual (link) is part of the project Music for All. Improving Access to Music Education for People with Special Needs funded by the European Union Central Baltic INTERREG IV A Programme 2007–2013. Priority 3. Attractive and dynamic societies; Direction of Support: Improving living conditions and social inclusion.

Cooperation partners at this moment: Drake Music Scotland, UK; Tolaram Foundation, Estonia; Pavuls Jurjans Music School, Latvia; Figurenotes Ireland; Asunaro Institut, Japan.

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Figure 3: The fields of the UDL Good Practices.

CONCLUSIONS

We have presented the design and development of the UDL Good Practices Inventory to benefit the interesting users in the field (educationalists, teachers, professors, practitioners, etc.). Good Practices included in this Inventory incorporate methods, techniques, approaches or lessons, which apply the UDL principles and guidelines. They have proven, through experience and experiment, to maximize learning opportunities for every individual student in order to secure inclusive and quality education for all. The Inventory supports also UDL Media Resources and UDL Collections. The UDLnet Inventory is not static. It is a growing and dynamic space whose main purpose is to stimulate new reasoning and practices and challenge existing ones. The benefits of using the UDLnet Inventory include:

- Diverse UDL techniques, methods and resources available as a comprehensive and growing repository.
- Users can access and modify concrete examples of UDL Good Practices on a range of topics.
- Support and supply enough scaffolding to newbies in the field of UDL and inspire more advanced users
- Users can be connected and collaborate with peers on UDL, even for a specific Good Practice or at a national level.
- Decreasing preparation time for UDL based lessons, while keeping high quality.
- Bottom-up Continuing Professional Development.

The UDLnet Inventory has not been designed as a destination but as a forum for self-reflection and critical thinking. It is rather an evolving space where practices mutate, shaped and altered and results from increased participation and successes are fed back into the qualitative learning loop.

ACKNOWLEDGMENT

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The Use Of Smartphones To Develop The Abstract Reasoning Of Preservice Teachers

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ABSTRACT

The familiarity of students with the electronic devices can be a great help in education. In fact, smartphones are one of the devices that can change the process of instruction (Eisele-Dyrli, 2011). For instance, in the United States, 98% of the students between 14 and 18 years old own a cell phone and 70% own a laptop, tablet, or netbook (Project Tomorrow, 2010). The experiment was a pre and posttest study with 17 preservice teachers. The test was the Test of Logical Thinking. The professor used the smartphones in the classroom during eight one hour-classes in order to promote the abstract reasoning with mathematics problems. The result was a gain of abstract reasoning of 0.21. Most of the students improved the abstract reasoning and it will be a help when they have to teach mathematics and science contents.

INTRODUCTION

Teachers of mathematics and science face a challenge when they enter the classroom. They have to help students get the most benefit possible out of limited instructional time. Therefore, teachers need to ensure that students are motivated so that they are better able to learn and participate in class. One of the most useful tools in education is the implementation of technology, and the addition of these new technologies into the classroom is often marked by improvement in students' learning and motivation (Méndez, 2012; 2013a).

Due to new advances and the proliferation of mobile devices, their use is widespread, natural, and quite intuitive. Most students if not all, own smartphones. The use of laptops is very common and the employment of tablets is increasing. Portability makes mobile devices very useful for educational purposes because students can access them and stay connected to others all the time (Melhuish & Falloon, 2010). The familiarity of students with the electronic devices can be a great help in education. In fact, smartphones are one of the devices that can change the process of instruction (Eisele-Dyrli, 2011). For instance, in the United States, 98% of the students between 14 and 18 years old own a cell phone and 70% own a laptop, tablet, or netbook (Project Tomorrow, 2010).

These technologies are attractive to students and promote motivation (Méndez & Slisko, 2013). Moreover, in the United States, "93 percent of parents like the idea of an online textbook and 47 percent feel that online textbooks would be a good investments for schools to make to improve student achievement" (Project Tomorrow, 2010, p. 25). The integration of information and communications technologies (ICTs) in the classroom can initially require some extra work and preparation for the teacher; however, long-term advantages are great and eventually result in the saving of time and increased efficiency. For example, there is no need to spend class time teaching students to use new instructional hardware and software (Kolb, 2011).

What Is Socrative?

There are several student response systems available on market that allow teachers to prepare educational exercises and games via smartphones, laptops, and tablets, test students, and receive immediate feedback and test results, for example, Poll Everywhere, Go Soapbox, and Socrative (Matthew, 2012). Socrative has the advantage of being free of charge.

You only need access to the Internet and a device like laptop, tablet, or smartphone in order to propose some questions and receive the answers of the students. Teachers design activities to do or problems to solve for students in class. They simply log in with their device and interact with the content in real time. Students' responses for multiple-choice and open-ended questions are visually represented on those student response systems. In case of pre-planned activities, a teacher can view reports online as a Google spreadsheet or as an Excel file.

These response programs have the following advantages:

1. They do not require any special or expensive software nor electronic device;
2. Devices that are accessible to anyone, such as the Internet and a smartphone with connection to the Internet, are the only prerequisites;
3. They are easy to implement in the classroom.

Regarding strategies of active learning, these tools can facilitate cooperative learning, a methodology that numerous educational institutions are promoting in science education (Eurydice, 2011). Moreover, they can be useful to improve understanding of the content explained in class, in particular those that require a lot of repetition,

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such as arithmetic calculations. A professor only needs to design an activity, give access to it to students, download excel sheets, and check the results.

Why Do We Use Smartphones?

Manuguerra and Petocz (2011) referred to mobile learning (M-learning) as a new concept which has followed E-learning. The use of smartphones and tablets can be very helpful for teachers in tracking and analyzing their students' learning and progress in real time. They can also be used as evaluation and assessment tools both of learning as well as teaching methods.

These are some other benefits of smartphones:

1. Teachers can easily design a series of knowledge- or opinion- based questions;
2. Students only need their smartphones and Internet access;
3. Teachers know the results of the tests immediately and all at once;
4. The results of the tests do not have to be public. They can only be known to the teacher and a chosen student.

Since smartphones are one of the most commonly used devices, we are going to focus on their integration in a classroom. The advantages are as follows (Attewell, 2005; Kolb, 2011; Duncan, Hoekstra, & Wilcox, 2012):

1. They can be used to encourage both independent and collaborative learning experiences;
2. They help to remove some of the formality from the learning experience and engage reluctant learners;
3. They help learners remain more focused for longer periods of time;
4. They help to raise self-esteem;
5. They help to combat resistance towards the use of ICTs and can help bridge the gap between mobile phone literacy and ICT literacy;
6. They are low cost or at no cost to educational institutions;
7. Students use them daily;
8. They can be used anytime, anywhere, from any source, at any pace;
9. They can empower students who are visually or hearing impaired;
10. They distract less than laptops.

To summarize, it is worth mentioning Prensky here who defined cell phones as "particularly useful computers that fit in your pocket, are always with you, and are always on" (Prensky, 2004, p. 3).

Formal reasoning

In general, the skill of formal reasoning is important not only at the moment of making and testing the predictions but also at every moment of learning physics. It is also true that the previous knowledge of every person and the effective use of logical rules of reasoning have a great effect in the learning (Mendez, 2013b; Pozo, 1988). In addition, there is also a partial dependence between the procedures of learning and the conceptual content. Therefore, the abstract reasoning is the skill that goes beyond the particular case and it is important to learn and understand, specially the abstract concepts (Tobin & Capie, 1982).

To get the measures of abstract reasoning levels and their changes, we applied the Test of logical thinking (TOLT), designed by Tobin and Capie (1982). In this study, the Spanish version of that test was used. The translation was done by the "Seminario Permanente de Investigación en Didáctica de las Ciencias" in Cadiz (Acevedo & Oliva, 1995).

To avoid the introduction of a new variable we will use the Spanish version, validated in a previous study. The TOLT, the Spanish and the original version, has been used in several investigations. Acevedo and Oliva (1995) measured the formal reasoning of 1400 students from 13 to 21 years. Valanides (1997, 1998) used the test with students from 13 to 17 years. The TOLT has been also applied to engineering students (Maris & Difabio, 2009), chemistry students (Gupta, 2012) and pre-service science secondary teachers (Hackling, Garnett &Dymond, 1990). There was also a research which had the goal to compare the effects in formal reasoning skills between a group with lab instruction and another one with traditional methodology (Koray & Koksal, 2009).

According to the level of formal reasoning, there are different ways of division. Some researchers consider that concrete level corresponds to a score from 0 to 3, transitional level from 4 to 6 and formal level 7 to 10 (Oliva, 2003). Valanides (1997) distinguished four levels: concrete (punctuation of 0 or 1), transitional (2 or 3), formal (4 to 7) and rigorous formal (8 to 10). The comparison is shown in the table 4. Surprisingly, Valanides (1998) made another division: concrete (0 and 1), transitional (2 and 3) and formal (from 4 to 10).

METHOD

A group of 17 preservice kindergarten teachers were working with their smartphones during eight one hour-classes in order to promote the abstract reasoning with mathematics problems. It was one hour to do the pretest. The preservice teachers worked mathematics problems for six hours and they had to answered with the smartphone. After each hour, the professor solved the doubts about the solution of the problems and he could focused on the difficulties because he knew the answers previously. Finally, they did the posttest.

The students had an hour to complete the tasks using also their own smartphones. For this purpose, the TOLT was loaded in a teacher's class in Socrative, and the room code was given to the students at the beginning of the session.

This session remained open until the end of the class, which allowed the students to do the exercise from both inside and outside the classroom, minimising the problems associated with the face-to-face education.

FINDINGS/RESULTS

The main result was a gaining of abstract reasoning of 0.87/10. The mean of the pretest was 3.94 (standard deviation of 2,08), while the posttest mean reaches the 4.81 (standard deviation of 1,97).

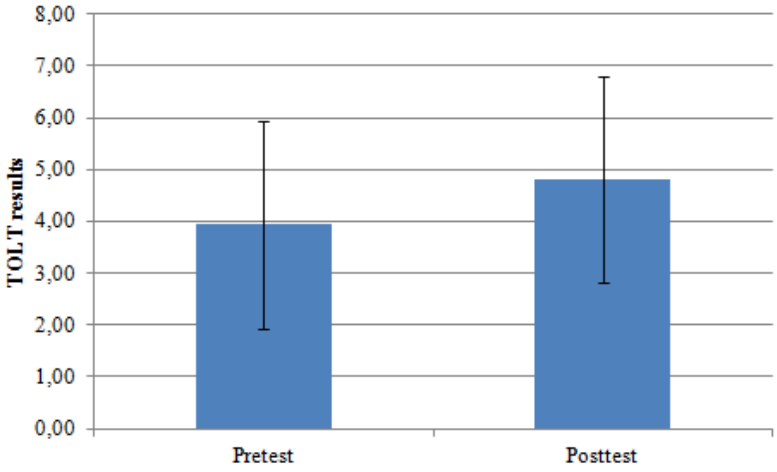

Figure 1: Mean and standard deviation of pretest and posttest

The average normalized gain G (Hake, 1998) is: G = (posttest-pretest) / (10-pretest)
The students have a mean G = 0.15, with an standard deviation of 0.29, which agains shows an increase in the reasoning skills of the preservice teachers which used screen methodologies in their reasoning learning.

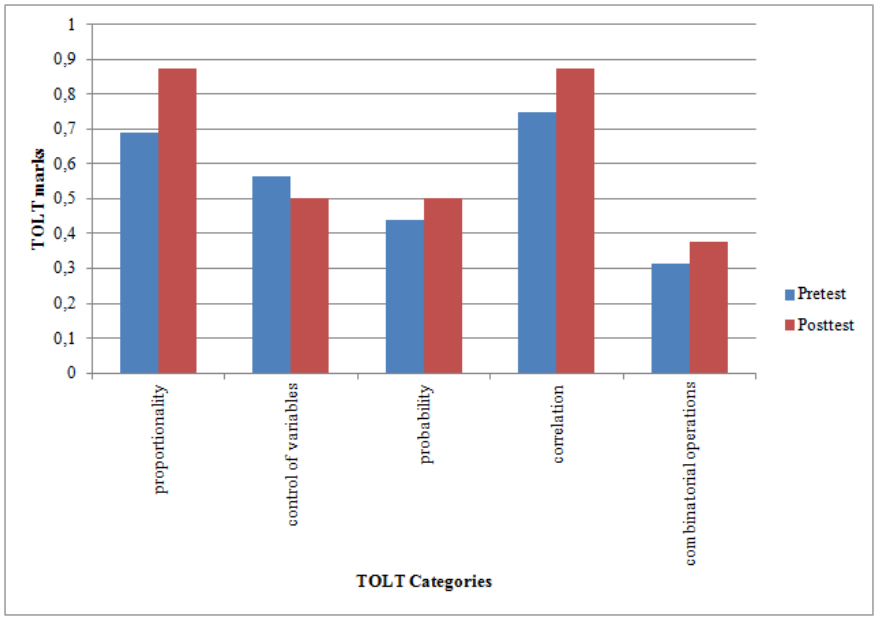

Figure 2: TOLT Categories results

An increase in four of the five TOLT categories can be observed in Fig 2. The "Control of variables" has been the only category in with the students have obtained worse results in the posttest than in the pretest.

CONCLUSIONS

With this experiment, the students have showed that it is very easy for them to use the smartphones in the classroom and they have been convinced that these are efficient tools in order to promote the learning and the development of several faculties, for instance in this experiment the abstract reasoning.
The students have developed the abstract reasoning with the help of the smartphones and they have got a good normalized gain. In comparison with other experiments but in a science subject, the results are worse, the gain was

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0.4 with secondary students (Mendez & Souviron, 2015) and was 0.27 with preservice teachers (Mendez & Slisko, 2013b).
The students achieved a result in the pretest of 3.94 and in the posttest 4.81. Oliva (1997) got a result with 14 and 15 years old students of 2.87 and Aguilar et al. (2002) got with 15 and 16 years old students of 4.5. And Valanides (1997) got a result of 4.1 with students of 13 years old. For this reason, the results are useful because the students of this experiment are future teachers and they will have to prepare other students in order to have the ability of understand Mathematics and Science. With this experiment, it is possible to develop, perhaps if they continue with this kind of activities they will be able to develop the abstract reasoning more as it is necessary.
As it is possible to observe all the abilities that the test measures have improved -proportionality, probability, correlation and operations of combinatorial analysis- but control of variables, therefore this ability should be worked with more classes or with different activities.

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The Views Of Experts In The Field On The Effects Of Multi-Stimulant Turkish Language Learning Environments On Learner's Language Skill

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SUMMARY

The goal in teaching first language is to teach various skills to the learners in order to use the language correctly rather than transferring knowledge. The usage of language is possible through acquiring fundamental language skills. These skills are; listening, speaking, reading and writing. The goal in the educational environment is the teaching and learning of these skills. Various applications are used to ensure that students participate in the learning process of acquiring the fundamental skills to attain the goals. Some of these stimuli that accompany education are artistic stimulants like art, music, theatre, drama, riddles, tongue twisters, caricature and short films. This study aims to analyze academic perspectives on educational environments with multi stimulants in Turkish language teaching. The study is a qualitative research based on semi-structured interviews. The participants are 8 academicians who are experts in language teaching in the Turkish Republic of Northern Cyprus. The outcomes of the study indicate a positive attitude on language education environments for incorporating multi stimulants.

Keywords: Language Skills, Multi-stimulated educational environment

1. INTRODUCTION

The general purpose of the Turkish Language Teaching is to train students to become sensitive individuals who are able think and are endowed with good receptive and productive skills. Listening, Reading, Speaking and Writing skills can be developed with language activities focusing on the reception. Production becomes possible by orienting the educational environment to the desired goals. (Sever, 2007:222) Language is learnt under the complementary relation of these four language skills. A balanced development of these four skills is a fundamental measure in the acquisition and learning of the mother-tongue. The Turkish Language is a total of the activities that endow learners with listening, speaking, reading and writing skills and therefore is not a subject centered on transferring information but rather it is a lesson where skills are trained and acquired. This stance informs us that the lessons are applied in the educational environment in relation to the education levels of the learners. (Sever 2011:10).

According to the constructivist attitude adopted by the Ministry of Education in 2015 in Turkish language curriculum, the learning environments are established with activities adapted to the abilities of the target participants. Thematic and activity oriented education environment will not only constitute warmer teacher-student relations, but also student-student-teacher relations will be more positively established. (Ozbay, 2010:247). This goal is attainable with the teacher.

According to Brooks and Brooks, constructivist teachers "Create individual oriented activities, encourage communication amongst peers and teacher and provide an environment where learners can freely express their thoughts and ask questions." (Brooks and Brooks, 2001: 103). There is a clear emphasis on the role of teacher in an educational environment. In Turkish language lessons the teacher's responsibility is not only to check for understanding in receptive skills (listening, reading) and productive skills (speaking, writing) in relation to the grammar point by asking questions. It is also the responsibility of the teacher to endow the students with the students with the critical skills to be able to engage what they read and listen, as well as facilitate the students to ask questions on passages as well as contemplate on the subject and evaluate it. (Sever, Kaya and Aslan, 2011: 27).

The students need to be given responsibility in the development of their receptive and productive skills in Turkish Language teaching. According to Kavcar (1999: 129) "the efficiency and success of students equally depend on the active participation of students in the classroom, as well as the activation of student's sense organs. Techniques and procedures such as group work, dramatization, demonstration, gamification needs to be used alongside the more traditional techniques and procedures of production, question-answer and decoding. Learning needs to be centered on performing according to their experiences and not looking according to their experiences; importance needs to be given not to a single method of teaching but to the richness of methodologies used in learning."

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It is a necessity to provide students with an environment in which they can share their students' feelings and thoughts and the use of artistic stimulants to learning and teaching processes as a tool which will actualize the Turkish Language teaching principles.

One of the fundamental principles of Turkish Language teaching is to discover students' skills. Turkish language teaching that is performed solely by using the book does not achieve this goal. (Demirel, 1998; Sever, 2007). Similarly, be it known that language classes where the flow of information causes the learning level to decrease, will lower the concentration span, will prevent interaction and most importantly, will also prevent the students from thinking on the subject. (Cited in Güneyli, 2007:34). The stimulants which breed creativity, not only to the student, but also to the teacher, and enhance students' language skills are the artistic elements of art, music, theatre, drama, riddles, tongue twisters, caricatures and short films etc.

The sense of hearing and sight has key positions in the development of language skills. Therefore, the implementation of hearing and sight stimulants into language education will aid students in their learning process and help them to think in various dimensions. Instruments and equipments such as graphics, maps, writing board, pictures, photographs, slides, signboards, signs, overhead projectors, radio, cassette-player, soundtracks, videos, CDs, MP3 appeals to students' hearing and sight senses (Cited in Aslan 2011:193, Demirel, 2002; Sever, Kaya and Aslan, 2006). In addition the fundamental tools of education are literary and informative materials. The students' language skills and their competency in the specifics of expressing themselves in their first language need to be thought of using these materials. However, Turkish language teaching must not be limited to one resource, but must be supported by equipped educational environment to enhance language skills through a multitude of stimuli. In order to achieve the desired student behavior, the educational environment needs to deal with quality and multi-stimulated lessons.

They gained the ability to think and to endow students with awareness and sensitivity is important in language education. The goal of training sensitive critical individuals only possible with multi-stimulated educational environment which aims to make individuals with an emphasis on the creation of feelings and thoughts. Technologically equipped modern education environments are required to be able to make students display their skills and their potentials through multi stimulant activities. This environment is the space in which the students can express themselves freely (Sever, Kaya ve Aslan, 2006: 28).

The students who are educated in an active environment who aim to develop creativity and thinking skills, in relation to more conservative environments with their limitations, positively influences student happiness and learning efficiency. In an age where science and technology are the ultimate tools for development, any nation requires happy, independent, democratic, innovative and creative individuals prosper. (Üstündağ 2003: 130).

2. METHOD

In this research, a qualitative model of research is used. It aims to uncover the academic outlook on multi-stimulated environments with regard to language education. The qualitative research is observation, interview and document analysis to gather information qualitatively. Qualitative research, " using observation, interviews and document analysis for qualitative data collection methods, such as perception and events in the natural environment in order to be able to gather data in a realistic and holistic way " (Yıldırım and Şimşek, 2004) is a definition of this methodology. To analyze the data gathered in qualitative research relevant templates, thoughts, reveals the descriptions and definitions are made (Büyüköztürk *et. al.*, 2009). Data obtained in descriptive analysis are summarized and interpreted, under predetermined titles (e.g., themes). Data can be classified according to their research questions, such as data collection stages (observation or interviews) or can be edited in the light of the preliminary information obtained. (Altunışık *et. al.*, 2001: 222).

2.1. Study Group

The study group's research universities in the Turkish Republic of Northern Cyprus constitute working in eight academic year 2014-2015 faculty member. North Cyprus Turkish Education of universities in the Turkish Republic and the Turkish Language Department will participate in the research experts from academia, "snowball / chain sampling " was selected using. With a total of eight experts in the field, including 4 women and 4 men in the study were interviewed. The study group of the research compromised of 8 academic members of faculty working in universities in the Turkish Republic of Northern Cyprus in the academic year 2014-2015. The academicians from Turkish Education and Turkish Language department from the Turkish Republic of Northern Cyprus were chosen and sampled using "snowball / chain sampling". With a total of eight experts in the field, including 4 women and 4 men were interviewed in the study.

2.2. Data Collection Tools and Analysis

The collection of data consisted of 11 questions, “a semi-structured interview form" was used. The data obtained from the literature review and expert opinions constituted the basis of the preparation of forms. The qualitative data were gathered from the Faculty of Education, Turkish Language Department as well as the Faculty of Arts and Education, Turkish Language and Literature Department from 8 academic experts in the field.

After the first part of personal semi-structured questionnaire where the participants filled out the information section, consisting of 11 open-ended questions structured and semi-structured interview questions were posed to the academics. Data were recorded with a voice recorder, with the permission of the participants through a semi-structured questionnaire held face to face with them. The descriptive analysis technique was used to analyze these data. The data obtained from interviews, analysis of data collected in this study were described then synthesized and summarized and interpreted. The data obtained from interviews were analyzed using descriptive analysis; the data collected in this study were described then synthesized, summarized and interpreted. The interviewees were coded as “S” refers to a specialist.

3.FINDINGS

3.1. Findings on the Necessity of Multi-stimulated Educational Environments

The experts in the field of Turkish Language teaching multi-stimulated educational environment were asked the following question to be able to assess its necessity. In Turkish lessons, as language skills are gained do you think it is necessary to occasionally use pictures, music, riddles, rhymes, short film, theater, drama and so audio-visual stimulus, as teaching aids?

All the academics surveyed stated that multi-stimulated environment was very important and a requirement for the educational environment in teaching Turkish Language. In justification, it was argued that the students could be given the responsibility to hear and think and showed the understanding of contemporary education. Some of the responses of the academicians to the necessity of multi-stimulated educational environment are as follows:

> *“Students need to implement the gained skills to understand and express. Given the responsibility of hearing and thinking visual and linguistic stimuli in according to age and level, by doing so assume important functions by promoting the acquisition in real life context” (S8)*

> *“Yes, it is absolutely essential. The development of language education and language skills in the students’ learning environment could be made more effective if the sense organs are stimulated. In addition, multi-stimuli education environment prevents Turkish lessons from becoming monotonous, attracts students’ attention and enables them to experience and learn the various points.”(S5)*

> *“... I see great benefits in the introduction of this kind of stimulus in terms of phonology, language acquisition, and learning and in terms of better self-expression of students.(S2)*

Field experts also expressed that during the execution of multi stimulant in the education environment, the stimulus has to take into account the level of the students.

> *“I think the level of students is very important. Primary education as the first period of Piaget's Concrete Operational Stage should be made concrete within the period. In later periods, the weight could be given to abstract issues. For example, if a cartoon is to be used in the primary period, then the chosen topic must be on a concrete expression. Abstract topics and places in the narrative are to be given later. In summary, if you need to specify all of the stimuli (pictures, theatre, music, film, etc.), the organization should be used unchanged up to high school period from primary education; but it must be appropriate to the subject matter and student level. "(S5)*

> *"Absolutely. We need to target levels. For example, do not set the puzzle according to the student's level. It must be able to generate curiosity for discovery. All stimuli must be adjusted according to the level of difficulty. Each stimulus can be used. "(S1)*

Under these findings, all of the experts stress that multi-stimulated educational environment should be used and emphasized that modern education could be provided in such circumstances.

"Contemporary Turkish education; is based on student needs, with the aims to develop students' artistic awareness, precision in language and awareness must be founded on love and understanding. All of these objectives to take place in the classroom under the guidance of a single first language teacher is not possible; the teaching - learning environment should be supported by audio-visual stimuli. Contemporary Turkish teaching purposes; language skills, writing and language awareness - sensitivity should aim to develop students' competency."(S5)

"In order to nurture critical, sensitive readers, it is the primary goal of the modern Turkish language education and to achieve this goal, students must be turned into subjects within the teaching-learning process. For this, they require stimuli which set their emotional perception and thinking into motion."(S8)

"To be contemporary is to present thought and criticism. Training students to be apt to the challenge of resisting whatever they listen and to learn how to think, are among the most important tasks to teach in Turkish language teaching. We need to teach critical element of thinking, although the attempt is to create a community of allegiance by many, our students should be able to say I have my own ideas within the society... "(S2)

One of the experts reinforced that the understanding of contemporary education as necessary, despite expressing that although there is a contemporary approach to education, noted that it is not applied.

"Available in theory, but not practice- there is no modern education. To know something does not mean it is applied or done. Currently we do not portray a contemporary approach stance."(S1)

3.2. Findings on Student's Learning Experiences

In this part of the findings, experts were asked to respond to the question; how much do multi-stimulated educational environments affect students' learning experiences in Turkish language? One of the findings to this question is that providing multi-stimulated learning environment, and incorporating music, pictures, cartoons, short films, nursery rhymes, the use of artistic stimuli such as a puzzle that facilitates the learning by making it easier, accelerate their learning processes by making it more enjoyable and long-lasting.

"Turkish teaching with the multi- stimulant environment is to avoid becoming dependent on textbooks; improving the thinking capability of students who have different interests, allowing them to be more imaginative."(S8)

"It affects it too much. Firstly, it makes things easier. Lessons are always boring, even if the students are a primary school, undergraduate or graduate, no matter what level. Such applications enhance motivation. It is very crucial to add color to the lesson. The effort to learn something important is not mostly fun, so adding color is important... It can enhance meaningful learning within the course, and the information can be made to retain their permanently."(S1)

"We will learn while having fun. We need to make education fun and fun will bring about learning."(S2)

"It is worth noting that permanent learning takes place. In multi-stimulant education environments, students learn by having fun, discussing, commenting, evaluating, exploring and so on. They learn."(S5)

Two of the experts who participated in the research pointed out that the stimuli need to be in accordance with students' learning experience and has emphasized the need to have a good selection and quality of stimuli.

" ...Good examples need to be brought to the class. We should not bring any stimulus to class just because we want to create multi-stimulated educational environment... we need to bring all the stimuli that have examples of correct usage of Turkish" (S4)

3.3. Findings on the Development of Language Skills

Research findings on the Turkish multiple stimulated education environment suggest that students' language skills improve and the findings based on the questions they have answered below.

a. In Turkish courses (training environments), is there any development observed in the students' language skills if the lessons are supported by audio-visual items?
b. Which of the above mentioned audio-visual stimuli do you use the most? Which of the stimuli can you choose as the one most efficient in the development of language skills?
c. What kind of activities could be performed by using multiple- stimuli for the development of language skills conducted in such environment?
d. In your opinion, which of language skills are the most difficult to improve? Which stimuli do you think should be added for the purpose of enhancing of that skill?

6 participants from field experts have emphasized that they use multi-stimuli to enhanced students' understanding and expression and enabled the application of skills effectively by enabling continuous improvement. Stated that they use artistic stimuli that increased students' mobility, made them livelier, and increased students' participation.

> *"I think that it caused development of all language skills. Audio-visual elements allow students to use their skills to understand and explain more effectively. It must also be noted that students actively participated in the course"(S5)*

> *"The students are more interested in the lesson. Theoretical things are more boring, but when it comes to practice the student's attendance and attention increase, so we observe some differences in learning."(S2)*

6 experts from participating in the research stated that they enhance the development of students' language skills in a variety of stimuli expressed. 2 of the experts stated that they use artistic stimuli different from that stated ones and they usually use the presentation as stimuli.

> *"... Of course talking about children's literature in the context of the tales I read them, I share plenty of images regarding the tales to illustrate the fairy tale characters. At the same time the child must not lose the visual aesthetic pleasure... I think sound stimuli would be more effective. Nursery rhymes, riddles, but also theatrical applications are more effective for the development of language. "(S2)*

> *"I benefit from the many short films. Short films that improve their listening and speaking skills, and I think that it contributes to their lexical knowledge. "(S4)*

> *"I usually use PowerPoint-presentation or computer... My purpose is to make them see it in real form to facilitate the lecture. Students are sometimes genuinely interested. However, with PowerPoint compared to other stimuli we think there is a lot more visual and auditory stimuli that could be more effective. "(S1)*

Field experts have exemplified the kind of activities that can be prepared in light of artistic stimulus that allows students to improve their language skills educational settings.

> *"Using cartoons to write compositions, followed by speaking, having tongue twister competitions, using short film to develop listening and speaking skill development."(S6)*

> *"... I use an object for the students to describe. Especially using visual imagery of dustbin to get them to describe..."(S1)*

> *"I read poetry in theater performance classes, I especially choose monologue, and I share poems. I myself read it first and indulge them in writing the first monologue or I get a prepared monologue and ask them to voice them. So I'm trying to correct the errors they make when reading their text. "(S7)*

2 of the research participant experts expressed that students acquired listening / speaking skills later as they are more difficult. 6 of the participants stated that writing is a much more difficult skill to obtain and have made recommendations for the development of the mentioned skills. One of the experts who expressed that writing is more difficult to obtain stated that the problems in writing skills is due to the problems in the acquisition of the four basic language skills.

> *"Often teachers' complaints and witness cases, that writing is the problem which might take a little bit more time than others in becoming proficient in it. In the process of teaching writing every available*

stimulus must be used. Here, the basic responsibility falls on the teacher. The work should not be undertaken without a conceptual plan to guide writing."(S3)

"They have difficulty in acquiring listening skills... I think that has more to do with the audio stimulus for this skill. We should use audio tools, more... I usually choose to watch movies on the road. The film I wanted to make them watch was cut in half so I was speaking stimulus with films."(S1)

"Neglected skill is the ability to write. We love writing essays in the space of the home. Whereas we should be able to think critically with students and make them transfer it onto a piece of sheet... We do not have a systematic approach to create paragraphs. Writing skill is not a mechanical process. The importance of critical thinking, analytical thinking and the ability to import, transfer it correctly... It is clear that in every way the problem is with four language skills."(S6)

3.4. Findings on the usage of multi-stimuli in language teaching

The findings in this part of the research were made up of the answer participants gave to the question; do you think those multi-stimulated educational environments are currently used in modern language teaching classes?

According to the participants 6 said that while the uses of multi-stimulated classroom are not used in today's language classes. 2 of the participants expressed that there was some usage of multi-stimuli in today's educational environment:

"No, I do not think so. Few teachers use it creatively and I keep them out of this equation on the application."(S6)

"I do not think it is being used enough. We are progressing in the right direction, but we do not use it enough. Because there are no necessary material, the lack of materials and therefore lack of its application persists. Universities have the upper hand on resources and in its applications that are more fortunate in this respect. But basically students cannot meet the needs of such stimuli because they have not been educated in this manner of expressing his own thoughts, and the adaptation period comes later. If students were aware of the ability to express their thoughts through visuals and if such an attitude was adapted then students would be much quicker in understanding their deficiencies and hasten to success."(S7)

"Turkish teachers, despite knowing the importance of the training environment to stimulate students, they tend not use them. It is easier for teachers maintain traditional education; in order to become more successful requires a preparedness to use audiovisual tools. If multi-stimuli educational environment are created to support the development of students is evident in this case."(S5)

According to the opinion of the participating experts, there are a variety of reasons why the multi-stimulated educational environments are used or not.

"... I take it there are economic difficulties and cannot afford to provide some of the stimuli. I cannot bring stimuli into the classroom to stimulate students because of the necessitated preparations..." (S1)

"Providing such media requires a certain amount of time and has a certain amount of cost. It is also important for teachers to gain professional competence of teachers..." (S6)

"We need a little more awareness. Our teachers need to be trained very well. In-service training must be given. We can also meet with teachers who do not know the language rules. There are teachers who are not aware of the richness of the Turkish vocabulary; Turkish language and we need to train teachers, especially sensitive to this issue."(S3)

The finding also provides us with the advice to internalize and achieve the main objective of the multi-stimulated educational environments. Some of these proposals are:

"In-service teacher training seminars could be organized in order to use the stimuli effectively."(S7)

"...We need to make the school experience meaningful. The national education and academic environments need to study the correlation in relation to this study. Visual and auditory stimuli have to be implemented by the teachers. Ministries of Education need to be guided by noticing the benefits of implementing the promotion of academic work and must not aware of this work."(S1)

4. CONCLUSION, DISCUSSIONS and SUGGESTIONS

This research that seeks to analyze the opinions of professionals on the effects of the multi-stimulative educational environment on the development of the language skills of Turkish learners has expressed positive opinion that introducing multi stimuli into the education environment developed the language skills of students.
Giving students listening and thinking tasks through multi stimulated educational environments and providing students the possibility to develop in a contemporary educational understanding is established.

It has been concluded that using qualified artistic stimuli chosen specifically to purpose and level of the students provide better possibilities for language development and that it has a significant importance in experiencing through doing and living. According to Sever (2007), for those students whom are willing to express their views on the evokings of a picture or a short film, education becomes a series of fun activities and become an encouraging factor for students to develop their comprehension and expression.

It was concluded that creating a learning environment with artistic stimuli to meet the needs of reading, listening, speaking and writing in the mother tongue learning and helps the individual in becoming a subject supporting contemporary Turkish teaching. An educational environment emancipated from a traditional class structure where only the teacher is active, artistic stimuli along with written texts should be introduced to the students living space. According to Sever (2011), in an educational environment that has reached a multi-stimulative quality through visual, lingual and audial tools, students cease to be the objects of theoretic teachings and become active subjects that can test, implement and develop their thoughts and feelings.

With this research, the need for multi-stimulated educational environments in Turkish teaching and student's language skill improvements had been revealed. The texts published on the subject seem to support these findings. In the research conducted, it was emphasized that Turkish lessons carried out with visual and audial stimuli make it easier for students to learn and help them to think multi dimensional (Aslan 2011:193, Demirel, 2002; Özbay, 2006; Sever, Kaya ve Aslan 2006). In accordance with the findings of the research on the effects of multi-stimulated educational environments for students, the following suggestions can be made:

- Turkish language teaching should internalize the main aim of the lesson and should research and renew itself continuously to reach this goal.
- For sensitive education, consciousness is a must. Teachers aware of the importance of stimuli and technologies and they need to be conscious and to be trained.
- In-service training seminars can be organized to help teachers use the stimuli mentioned.

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To Describe, To Learn, To Care: A Hermeneutic Approach To The Teaching Topics

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INTRODUCTION

The comparison of the school with emergencies of a complex society has brought to the attention of teaching reflection the issue related to skills training. In very general terms, the interpretation that has led research of this fundamental variable of the training involved very often the relationship between schooling and promotion of attitudes, skills, knowledge necessary to support the inclusion of the subject in the world of labor and professional contexts. Based on this premise, the concept of competence has undergone significant transformations that, without dislocating his epistemic system by formalizing of practical and operational functions of subjectivity, anchored it to the practical function as *to perform* and later to an operating function more complex , *to decide* (Pellerey , 2004; Rey , 2003). The anchoring of the concept of competence to the *executive* functions, placed its epistemic profile within substantially replicative processes, and identified it with the *ability to perform action sequences pre-organized and rigidly codified*. According to this usage, be competent means essentially to be able to perform as precisely as possible a series of prescribed behavior, independent of the nature of the task and the peculiarities of contexts.

In more recent times, the mutability of the contexts has contributed to highlight the limitations and rigidities implicit in the concept of competence focused on practical-executive assumptions. The reflection on the topic, without denying the reference to the practical dimensions of action, has, however, produced an enlargement of the epistemic perspective, releasing it from executive conceptions anchoring it, so pregnant, in decision processuality. In this new meaning, being competent means *to handle the ability to develop and execute innovative decisions*, *faced to the emergence of new problems*. Competence is not identified, therefore, with the ability to perform known procedures, but with the ability to use knowledge as tool for intervene on reality and change it according to personal projects. At the center of that skill it is found the decision-making ability, the *ability to ask the personal cultural knowledge* in order to: identify (formalize) the characteristics of the emerging problem; operate the mental processing of intervention strategies; identify variants of action and its possible effects on the situation; identify, among the elaborated strategies, the one that best responds to the peculiarities of the problem; take (decide) the realization of this strategy and manage dynamic routes which manage its implementation in the context; evaluate the ability of the adopted strategy to direct action towards the goals; introduce in the process any changes related to strengthening of effectiveness of action.

The model of competence implicit in the described process identifies its foundations in the practice of *problem solving*, which inscribes its assumptions in the *transit from declarative knowledge to procedural knowledge*, that is, in the passage from knowing as conceptual corpus focused on definitions, to know as cognitive apparatus willing to design and intervention on the real. This educational concept of knowledge appraise the cognitive variables that organize transactions on I-world on pragmatic assumptions. Actually, already in the reflections of J. Dewey (one of the first and, certainly, the most authoritative exponent of the pragmatic vision of knowledge and education) it is possible to see the presence of other epistemic components appropriate to base the educational values of disciplines. He argues, in fact, that "the problem of education is to find the material that engages a person in specific activities that have an aim or a purpose interesting for him and that consider things not as tools of gymnastics but as conditions for achievement of purposes "(Dewey, 1953, p. 78). As can be noted, the american philosopher-educator identifies the conditions of the didactic training not only in the possibility to interpret the discipline as "instruments aimed at achieving goals", but also as a doctrinaire corpus that, save this first condition, puts students in a position to deal with activities aimed at achieving an "aim or a purpose" that meet his interest. In Dewey's words emerges, therefore, a vision of teaching and learning process that identifies the conditions of its full compliance not only in the tension that directs operations towards practical- operational skills, but also in the esteem of subjective instances that allow to the student to establish the significant that the knowledge can take for subjectivity and, particularly, the dimension of the Self. As these components show themselves largely associated to pragmatic value of disciplines, they, however, do not exhaust their meaning in the scope of the practical components of action. The opening of the educational process to constitutive dimensions of subjectivity or, as claimed by J. Bruner (1988), the backdrop of consciousness, look to be the reference of educational action to knowledge of hermeneutics matrix, which, according to the configurations pragmatic matrix, put the student in the condition to develop the profile of the reasons why those specific learning can become relevant to the Self. In more specific terms, the employment in educational operating area of hermeneutics connotations of knowledge introduce in the plan of educational action the training skills related to an additional goal: to promote among student the

capacity to manage not only the practical-operative skills, but also the mental functions of interpretative matrix , which direct knowledge to the *dimensions of meaning*. In light of these circumstances, for example, the teaching of information technology, over to promote among students the knowledge of the structure of the bit and the mastery of the procedures useful programming activity, identifies a further aim in the possibility to strengthen their ability to conceive and to reply to meaning questions as the following: what are the reasons for these the knowledge of the bit can become relevant for me?; what changes this discovery resulted in human history?; what consequences this knowledge reflected on my way of being?; In what way this knowledge change my life and the perception that I have of myself ?; in this sense, what criticalities and what possibilities this knowledge provides to me respect to development and implementation of what I decided to be?; how this knowledge influences my relationships with others?

As we can note, the profile of these questions orients knowledge not so much towards the elaboration of the definition of the content (what is a bit), or towards the formalization of procedures and algorithms that implement this knowledge in tasks of pragmatic-operational matrix related to programming. They, without denying that size, solicit, rather, the development of an additional epistemic step, aims to clarify the connections that content establish with the dimensions of subjectivity related to personal experience, relationship with others, the identity profile.

TO DESCRIBE, TO PLAN, TO CARE

The projection of teaching towards the meaning connotations establish the need to formalize the models of intervention within which insert interventions aimed to its realization. In this respect, it is specific task of educational action identify the suitable criteria to guide the learning processes to production of these mental representations. The configurations of meaning, by virtue of their strong hermeneutic connotation, take consistency in the operating area of knowledge contexts able to connect content to fundamentals that characterize the constitutive profile of the Self. For these reasons , they express their potential in cognitive acts within fundamental epistemic actions, which finds their anchor point in the activities aimed to processing of judgment (Lipman , 2005) . The " judgment" can be defined as a statement on the experience and on the world, in which can be identified two levels of analysis. At first level, that is most summary, they have a *basic configuration* attributable to the linguistic structure of the sentence; at a deeper level, they express instead a *knowledge intention*, which identifies the purpose that they wish to achieve through their own structured according to the procedures of the first level.

Compared to the level connected on the *basic configuration*, the judgment can be defined as a linguistic construct based on association between two concepts: of these, one represent the object placed under observation; the other defines, instead, a quality which is assigned to the first. In very general terms, the term that indicates reality which is spoken takes the name of *subject*, while the term that indicates the quality that is assigned to the latter takes the name of *predicate*; the language construct that establishes the attribution of quality to the object is, instead, the copula. The language model that expresses more fully the structure described above is to affirmative matrix, which becomes recognizable in the formal proposition "A is B" (e.g.: *the cat is an animal*), in which the quality represented by B (in case of the example, the concept of the *animal*) is assigned to the object A (in the case of the example, the concept of *cat*). Compared to the level connected to *knowledge intention*, the judgment is instead like *personal disposition which the knowing subject is oriented toward the known object* .This disposition it is recognizable in epistemic purposes that the person intends to pursue when committed itself in the development of the knowledge act. These provisions can, obviously, materialize them in a plurality of intentions and purposes, however, as they are subject to various configurations, their underlying structure can be recognized in the profile of three fundamental epistemic acts: the act of describing, the act of planning, the act of caring (Lipman, 2005). In this respect, the statement of the previous example can be developed to bring back the object-cat to a description that makes more recognizable its constitutive characteristics (to describe); to appoint to the cat a value that is coded it, creatively, as a symbol of elegance, cleverness, independence, etc. (to design); and, finally, to recognize in a cat an individual that, as bearer of life, deserves respect, attention, protection (to care).

The mental act of *describing* materialize it in a modulation of judgments aimed to identify the constitutive features of an object. It consists in the development of language constructs essentially predicative, aimed to associate to a being a set of attributes that qualify its profile. The general function is specified in further epistemic joints, such as those related to *generalization*, which consists in subsuming a concept within a more general concept; in *deduction*, which consists in deduce a specific concept from a wider concept; in *comparison*, which consists in the comparison between two concepts to find similarities and differences; in *systematization*
that consists to intention objects according to the connection part-whole; in *causality*, that concern to connect to each other the concepts according to the relationship of cause-effect. In terms of dimensions of meaning, the skill in question responds to a request for clarification, the subjectivity need to bring a clear and recognizable profile the object to intention its knowledge acts.

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The mental act of *planning*, in terms of knowledge intention consist, instead, in the elaboration of the sense that release the object from real connotations, hinged on the definition of *what it is*, to place it in a new network of relationships, and identify it, consequently, in reference to *what it can become*. Planning elaborations reveal, therefore, an highly creative value and (at the level of basic configuration) finds its anchor point in the context of knowledge acts built on the model of linguistic metaphor (e.g.: A *is like* B, where A and B represent constructs related to semantic fields not only different, but neither correlated by logic or empirical manner).

The mental act of *caring*, identifies, finally, its knowledge intention in the operating area of epistemic processing oriented to thematise *the object as a reality characterized by value and therefore deserving of attention, protection, in fact, care*. The linguistic models suitable to support this instance may, of course, be varied and are not attributable to a prevalent linguistic form. They, however, can identify appropriate ways of expression within the lexical, syntactic and pragmatic codes suitable to express feelings of empathy and/or to mediate a decision aimed to action. Empathy (which, in general terms, can be defined as the ability to reproduce in themselves what the other feels, maintaining awareness of the distance that separates us from him), that is factually recognized in the statements that relate the dynamics implicit in the process of identifying that ratify the value that the person recognizes to the objects of experience. The decision appears, however, in declaratory contexts aimed to codifying behaviors and choices by which an object can be "acted" in respectful terms of its value and its meanings.

MENTAL SKILL AND LEARNING: AN EMPIRICAL INVESTIGATION

Thinking skills described in the previous paragraph have formed the investigation object of an empirical research focused around two questions: a)What are the thinking skills that students activate during the execution of learning tasks? Are such skills requested by the structure of proposed deliveries? The investigation is conducted on a group of 90 students come from the third, fourth and fifth year of high school of the Province of Lecce (Puglia, Italy). The students, divided by classes, have partecipated to a lesson about a philosophycal topic carried out by a university professor (a different teacher for each classes), and then they were urged to perform a written school work on the topics that are objects of the lesson.

Structure of educational intervention

The lesson aimed at children in third classes had for theme the *Sophist* of Plato, particularly its spacing from the Parmenide's philosophy of and the claim for which "being is, non-being is". In this case was adopted the methodology of traditional lesson, hinged on procedures typical of classical argument, aimed at clarifying of the concepts and on the focus of the differences between Plato and Parmenide. Later, the students were asked to play, in written form, the following task: *In Plato's philosophical argumentation, exposed in the Sophist, being is, and non-being is: is distress the principle of non-contradiction of parmenidean matrix. Prepare a critical reflection on the exposed issue, taking into account: a) the philosophy of becoming and relativism; b) the Plato's arguments of solution to ensure the rationality underlying to principle of non-contradiction: A) the duality of knowledge and the duality of being, mimesis and methexis; B) otherness/multiplicity of things and ideas.*

The intervention done by the students of the fourth classes has had for theme a reflection about the laws, on their meaning, their relationship with the foundations of democracy. The students first have heard a song by Bob Dylan, in which is stated that "to live without laws must be honest people" and, later, was directed them the question: "Can we live without laws?". Then they attended to a lesson about philosophies of Hobbes, Spinoza, Montesquieu and Rousseau on the theme. After the intervention, the students were encouraged to play the next track: "*To live without laws must be honest people*" *(Bob Dylan). How is it possible to live - if it is possible - in a society not governed by laws? Develop a critical reflection, that, framing above-mentioned question within philosophical discussion on the autonomy of the subject, takes into account the contribution of Thomas Hobbes relating to the condition of man in the "state of nature", the social contract and the preference for the monarchy; of Spinoza about on the democratic form which highest and most perfect political form; of Montesquieu and Rousseau: some elements of self-reflection about human societies (from the parable on the autonomy in which it tells the story of the troglodytes to the theme of solidarity and social equality).*

The fifth classes have followed a lesson about Nietzsche and the concept of truth, carried out with the same methodology adopted for the third classes. Later, the students were asked to perform the following task: *taking inspiration from the texts of Nietzsche below, trace the history of the truth from its constitution as pragmatic and functional means, and try to identify what were, for Nietzsche, the developments and the consequences of this "construction" in western philosophy and morals;* Human too human *(aphorisms 9, 10, 11, 15, 18);* Jolly Science *(aphorisms 110, 111, 112, 354);* Twilight of the Idols *("The Reason of philosophy", "The four big mistakes" , "On Truth and Lies in extra-moral sense"* .

As you can see, *the educational interventions put in place in the different classes* differ both in terms of the presentation of themes and in regard to the assigned tasks to students. More precisely, the presentations oriented to the third and fifth classes follow the classical methodology of frontal lesson based on argumentative criteria. They refer to some works of the authors (Plato for the third and Nietzsche f the for the fifth) and, starting from the latter, aim interventions to definition and clarification of concepts. In this sense, they are essentially hinged on knowledge models of declarative matrix. Their epistemic intention is focused on underling of the constitutive elements of the object of study and is expressed in the formulation of linguistic propositions largely attributable to the descriptive model "A is B" (the comparison between Plato and Parmenide or between Nietzsche and other authors is aimed to give substance to the construct: *For Plato the being is ... ...; For Nietzsche the truth is*.....).

The educational intervention achieved in the fourth classes has, instead, an epistemic structure different from the structures of other classes. The structure of the intervention, in this case, doesn't satisfy criteria of declarative matrix, but assumes, rather, a problematic profiles. The contents of the object lesson, in fact, are not presented as declarative corpus that are justified in themselves, but as conceptual units that make sense according to the problematic focus envisaged by the initial question ("Can we live without laws?"). The purpose of the teaching intervention is not to be found, in this case, in an attempt to encourage the student to develop the declarative knowledge, but in the intention of promoting in him the activation of mental skills that oversee the autonomous development of an *essential knowledge* (build a personal and meaningful representation of what the laws are in the world in which he lives and what value they assume for the definition of his way of being) (Wiggins & McTighe, 2004). The didactic action originates from a stimulus on the theme (the song of Bob Dylan) for presents the content is not as epistemic constructs concluded in itself, but as knowledge apparatus that can stimulate reflection on questions come from the same context which is obtained the initial solicitation (*the meaning of the laws and their relationship with democracy*). In this sense, the purpose of the intervention is not to *clarify what it is the law for Rousseau or for the other presented authors* (declarative knowledge), but to propose a lecture's itinerary that puts the students in the condition to *understand like the "notion" of "law" elaborated by the philosophers, can help to conceive a "representation" of "law" that is relevant and meaning for his way of being* (essential knowledge). The fundamental epistemic intention indicates, therefore, the attempt to activate inferential processes that, builds on the concepts of the authors, put the student in a position to develop a suitable representation of them to establish personal guidelines that oversee the relation with the context. In this respect, the purpose of the lesson is not to make the clarification of the concept of "law" specifically for each author, but to offer to subject the opportunity to explain to himself what it means the concept of "law" for the personal experience and for the context in which he is called to live.

Structure of tasks

Actions taken in the three classes also differ respect to the structure of the tasks assigned to the students after the lessons. In this case, the diversity of structure refers to the peculiarities of mental operations required by these deliveries, the articulation of which appears due to the different configuration of *cognitive styles* (Sternberg & Spear - Swerling , 2008) implied in the formulation of the tracks . In particular, the task assigned to the third classes is structured on the peculiarities of the *executive style*; one is assigned to the fourth classes is structured on the peculiarities of the legislative style ; one is assigned to the fifth classes is structured on the peculiarities of the judgmental style.

The task assigned to the third classes is hinged on assumptions of playing executive style, which is identified in the set of mental operations aimed : 1) to reconstruct as accurately as possible the structure of a known concept; 2) to carry out, as precisely as possible, an operational sequence already coded. The request made to the students of the third classes observed, in its formulation, both of these operations. Indeed, it asks students to define, in an articulated manner, the Platonic conception of Being (to reconstruct a known concept) ; and to operate this reconstruction "taking into account" other concepts in the philosophy of the author (accurate execution of cognitive paths prescribed, whose steps are determined in advance by the structure of the task).

The task assigned to pupils students in fourth classes replies, instead, the fundamentals of the *legislative style*, which finds its assumptions in the mental operations finalized to produce knowledge that assign to objects a emerging profile, very innovative compared to the epistemic structure known or preconceived. The structure of the task follows the model of the essential question, which is the formulation of an open question, which comes free of the specific nature of the content (the philosophies of Hobbes, Spinoza, Montesquieu and Rousseau) and that, however, it raises questions can be discussed and formalized through a specific reference to that content. In this case, the formulation of the task, doesn't ask to reconstruct the definition that the authors give to the concept of "law." It asks, rather, *the development of an emerging epistemic profile*, which is identified in the *independent formalization* of the contribution of these definitions to clarify a problem affecting not more than the same construct, but the context in which the subject places his experiences (can you live without laws?). In more specific

terms, the "legislative" profile of the intervention doesn't focus on the clarification of conceptual profile of authors, but it is founded on trying to discuss a question that assumes the epistemic content of those constructs *to generate from them a plus cognitive* related to the peculiarities of the contexts in which the student carries out his personal and social experience.

The task assigned to the fifth classes realized, finally, the conditions of *style judiciary*, which is manifested in cognitive acts finalized for elaboration of personal considerations and evaluations about existing content. The profile of this style becomes recognizable in the request addressed to the students, to elaborate a review of philosophical texts already consolidated, taken from the main works of Friedrich Nietzsche. In any case, although the delivery prospects an exercise focused on the comment, the formulation of the track introduces in the task some elements that refer to the peculiarities of executive style. Indeed, it doesn't just require the elaboration of judgments and personal assessments on the contents of the texts, but it directs the attention of the students on the concept to put under observation (that of "truth)" and also it indicates the interpretations that they shall guide the formulation of such judgments (the consequences of Nietzschean philosophy on Western philosophy and on moral).

RESULTS AND CONCLUSIONS

The themes developed by the students after lessons, were processed through the indexes of textual statistics. The extrapolation of these indices has been operated by the T-LAB software, and it focused on the detection of clusters within the documents produced by the students of each class. The results detected by these procedures were analyzed in reference to the initial questions, namely: a) to identify the thinking skills used by students in the elaboration of the themes; b) to verify if these skills are related to the structure of the delivery. To answer to these questions, it was considered the cluster, that in the productions of each class, saturated the percentage of higher meaning in the corpus. The methodological choice to focus the investigation on the classes was adopted according to different structure of the tasks assigned to each class. In this way, in fact, it was possible to put under observation the existence of correspondences between the structure of the task and the type of the forms of thought used by students in the construction of the theme. In order to bring order to the exposition that follows, it will proceed first to identify the forms of thinking used by students in the construction of the projects and later it will experience the existence of correspondence between these forms and the structure of tasks. The appendix shows statements that are having significance levels higher within the clusters.

Thinking skills used by students

The papers of the third classes condense the core of meaning more relevant around the cluster relative to the headword *Patricide*, which saturates the 33 % of the variance relative to total utterances. Thinking skills highlighted by language productions of the students are placed in all cases in the context of the description. The structure of judgments is in large measure due to the generative model " A is B ", with a prevalence of particular forms enunciation based on the comparison : For Plato (A) being is to be conceived in terms (is) dialectical and dynamic (B) ; Plato (A) commits (is) a patricide in killing, obviously metaphorically, Parmenide (B) ; Dialectics (A) is for Plato (is) the true form of philosophy (B), markedly different from the rhetoric philosophy of the sophists (comparison) .

The works of the fourth classes condense the most important core of meaning around the cluster relative to the headword *law*, which saturates the 28% of the variance relative to the total utterances. The generative structure of such judgments found a marked prevalence of statements related to the ability of Caring. The prevalence of language productions elaborated by students appears largely related to constructs designed to mediate: a) a representation of the personal and social value of laws; b) a decision aimed to define actions based on that statement of value: *who wants to live in a State and to enjoy security, freedom and rights must respect the laws* (laws allow you to define "what is to be done", for "acting" status in its connotations of value - safety, freedom, rights); *Today we live in a democratic country, where the political participation and respect for the law is the cornerstone of modern society* (formalization of the reasons for which the laws allow you to "make explicit the importance of a wide value", that of democracy); *any law, which is proposed, isn't only emanate for those who are disloyal, because even if we lived in a world dominated only by honest people, in the absence of laws, the principles of freedom or equality in any case never would reach* (identification of reasons that make relevant laws not only for the community, but also for personal life). Dates of the cluster put, also in evidence, although in circumscribed form, linguistic processing related to empathy. Traces of these representations can be identified in two linguistic phenomena in the corpus: a) the constant and continuous use of the declined verb in the first plural person (*We live*); b) the use of exclamatory expressions (*the man can give so much more !; Yes, lawless !; no one can blame him!*) and question / reflective (*But would be able we, men of the third millennium, to live, just a day of our lives, without rules and constraints? Could we to not infringe the freedom of others?)*. Both of these phenomena emphasize the tendency of students to place the epistemic content (reflection on laws) against the background of

a social reality which the personal subjectivity plays a part and which, therefore, causes emotional resonances and, as a result, identification paths, in personal experience .

The works of the fifth classes condense the most important core of meaning around the cluster relative to the lemma *truth*, which saturates the 26% of the variance relative to the total set. The structure of the judgments contained in that corpus detects marked correspondences with that of the third classes. It denotes a strong focus of statements about the author and his particular way of viewing the content. The structure of these linguistic constructions reproduces, therefore, also in this case, the fundamental model of the *description*, hinged on the declaratory scheme "A is B": *the truth* (A) *are* (is) *illusions of which you have forgotten that such are* (B). A peculiarity that is found in the statements are part of the corpus is their substantial uniformity, both in terms of content (*truth as moving army of metaphors*, which is found in all the statements in the cluster), both from the point of view of linguistic elaborations, which circumscribe to a minimum the variety of formulations.

Correspondence between the structure of delivery and mental skill
The evidences emerging from the analysis of the cluster appear to show that: a) deliveries structured on executive and judgmental styles (the third and fifth classes) have promoted the activation of mental abilities relative to the description ; b) tasks structured on *legislative style* called for the activation of mental abilities relative to Caring

The works produced by the students of the third and the fifth classes highlight a marked tendency to trace the elaborative scheme suggested by the structure of the delivery. In the case of the third classes, the configuration of the descriptions in the corpus reproduces, in fact, slavishly the strongly executive input implied in the track, and it produces a substantial uniformity in the linguistic organization of sentences. The task of carrying out the elaborate according to precise indications (executive style) has urged students to activate internal resources related to the descriptive ability, but also has encouraged the assumption of a language model mainly hinged on predicative and comparative functions. The cognitive instance in exam becomes itself clearly identifiable in the epistemic path implied in the totality of statements that make the cluster: clarify the meaning of the statement “being is, non-being is”, through mental paths mainly focused on the comparison between the philosophy of Plato and that of Parmenide, in turn it analyzed with respect to the concept of patricide. The executive task reveals, therefore, a strong tendency to request meaning instances related to the clarification of the content object of knowledge, and to process such requests through the mental model of the description (what the object is), implemented through the prevalent use of epistemic declarative paths. This style doesn’t reveal, however, the ability to activate neither mental models of design nature (relative to the projection of knowledge towards the prospect of being able to be), nor the mental models of taking care (related to the projection of knowledge to the prospects of values).

The works produced by the students of the fourth classes point to a marked tendency to characterize knowledge in terms of value. The cognitive instance that emerges from the content of the cluster highlights the epistemic commitment to clarify not the conceptual content (the concept of the law), but the value that content can take for the subjectivity and for the social context. The results produced by the survey put, therefore, in evidence the correspondence between deliveries structured on legislative style and the activation of thinking abilities focused on the taking care. The epistemic intention that emerges from language constructs developed by the students of the fourth classes is identified, in fact, with the specific elaborations of this mental model: a) the formalization of the decision-making apparatus that allow you to "take action" content in its connotations of value (specifically, the definition of the routes that identify "what is to be done" to connote the laws in terms of value, what implies, in terms of action, the fact of recognizing the laws as entities connoted in value terms); b) the development of cognitive paths of empathic matrix that permit to specify the relief that the content takes for the backdrop of knowledge, declined both in personal terms and in social terms. Tasks structured on legislative style leave, also, on the background mental models of descriptive matrix and they have no references to mental model of design matrix. In this respect, the fact that the cluster in question doesn’t present marked references to the authors lesson object (between these only Rousseau is named, and only in a sentence) appears particularly significant. This evidence can be considered a further evidence of the marked distance of the legislative style from the skills of descriptive matrix and its prevailing orientation to mental models hinged on the act of taking care. More precisely, the resources of descriptive matrix aren’t excluded from the cluster statements, but rather they are used to formulate the base statements, which are used as a basis for care judgments of nature mainly values (taking care). Equally significant appears, finally, the distance of the legislative style from thinking skills of creative matrix, whose configurations are not found in any statements that are part of the cluster.

The works produced by the students of the fifth classes highlight a marked tendency to characterize knowledge in descriptive terms. In this respect, they reveal a substantial similarity with language productions developed by the students of the third classes, although they distance themselves for some peculiarities. The results produced by the survey bring in relief a decisive correspondence between the deliveries structured on the justice style and mental

abilities related to the *description*. The cognitive instance emerges from the language productions created by the students is recognized, in fact, in the attempt to apply a clarification of the content object of reflection (the Nietzschean concept of Truth). Such cognitive intention is materialized through the formulation of language constructs with a strong predicative value, that prevailing modeled the pattern "A is B" (the totality of the statements in the cluster is addicted to the script [*the truth* (A) is (is) *an army of metaphors consolidated during the time* (B)]), but that they haven't the additional variations of skills implicit in that model of thought. Precisely in this figure, moreover, it shows the difference with the language productions of pupils in the third classes, in whose productions, in addition to the general structure of predicative type, there is also the specific function of the comparison. The statements contained in the cluster detect, even in the fifth classes, the absence of mental models related to project and to take care.

The dates collected from the empirical investigation, as subject to further insights, allow some synthesis considerations about the subjects of reflection. The first fact to note is related to the substantial differences between the linguistic productions realized by the third and fifth classes and those developed by the fourth classes. While the first appear spread over *connotations of meaning focused on the structure of the object of learning*, the latter have instead focused on the *connotations of meaning that make very important that subject for the backdrop of subjectivity*. This result occurs due to the differences between the structures of interventions made in each class. In this case, the dimensions of meaning hinged upon in the mental act to describe prove largely associated with deliveries focused on the style of executive and judicial nature. This correspondence appears due to relief that takes in such tasks the reference to the epistemic configuration of the object of study. The prevailing focus on the content of those deliveries actives in the students cognitive instances related to the clarification, the element that allows you to give a reason about the why language productions associated with that epistemic configuration occur mainly aimed to clarify the connotations of meaning related to the structure of the concept. The dimensions of meaning associated with the act of *taking care* appear, instead, largely related to deliveries made on the premises of the legislative style. The structure of the task appears focused, in this case, not on the clarification of a content, but on the *problematization of a concept*, that is, on the questions, on the doubts, that the particular content refers to subjectivity. The epistemic instance urged by the legislative style promises to the person not an instance of clarification of the content, but an instance of clarification of itself. In this sense, it is structured on requests that establish precise correspondences with dynamisms hidden in the mental act of *taking care*, ended to thematise the relief that the object takes for the Self. That element therefore allows to give reason both the prevalence of this mental model developed in the works of the fourth classes, both of the reasons because such elaborates occur mainly located on the connotations of meaning ascribed to the side of subjectivity.

Requirements of clarity impose to indicate that dates revealed from the empirical research and differences identified between the different classes don't appear to be related to variables of evolutionary nature, related to the difference of age between students. This conclusion find appropriate justification in the fact that students of different ages (those of the third and fifth) show linguistic production substantially equivalent, so that the differences between the works of the various classes can't be ascribed to the influence of age, but to the different structure of the interventions and the tasks assigned to students. In conclusion, it is necessary to detect an additional fact: that relating to the absence, in the materials of all classes, of the mental model of the design. The reasons for this absence can be many and they still pose the need for an additional segment of investigation aimed to clarify the reasons suitable to bring to sense the happening of this phenomenon.

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APPENDIX

In this appendix are statements more relevant, related clusters of each class and make that exemplify the data described in the article.

Third classes

SCORE (85,499) In the work 'sophist' for example Plato commits patricide in killing, obviously metaphorically, Parmenides great master venerable and terrible. Plato for being is to conceive dialectical and dynamic terms and not absolutely static. The dialectic looks like real form of philosophy differently from the sophistic rhetoric persuasive.

Fourth classes

SCORE (154.11) "To live without laws must be honest people" ... Yeah, without laws! Could we live without laws? Wherever we go, our life is subject to specific laws and prohibitions. But we, men of the third millennium, are able to live, even just one day of our lives, without rules and constraints? We could not to violate the freedom of others?

Fifth classes

SCORE (71,336) truths are illusions of which it is forgotten that these are; "[On Truth and Lies in extra-moral sense]. Representing the truth as an army of metaphors Nietzsche wants to highlight its derivative, arbitrary and essentially false nature.

To Pair Or Not To Pair: Investigating The Dynamics Of Teacher-Student Interactions In Different Classroom Settings

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ABSTRACT
In a 21st century classroom, the challenges that most teachers faced everyday are to cater to students with different levels of development or readiness. The aim of this descriptive study is to examine the dynamics of teacher-student interactions (or engagements) in two different classroom settings: individual setting and paired setting. A mixed method approach was employed for this study from a sample of Year 7 mixed-ability streamed mathematics class. The analyses of the data were extracted from the pre and post semi-structured interviews and the two video recordings of the two different settings. Based on the analyses, there were four common themes observed, the teacher's attention, the teacher's trails, the students' engagement and the nature of interruptions in the lesson. The teacher's perceptions and training also played an important role in the aspect of successful implementation of pair setting classroom. The findings in general revealed that the paired setting induced a more conducive classroom environment where the students have the opportunity to discuss mathematics with one another, and also to refine and critique each other's ideas and understandings of the given lesson tasks.

Keywords: Teacher-student interactions, Individual and paired settings, Engagements, Trails, Interruptions

INTRODUCTION
In a 21st century classroom, the students are so diverse in terms of their social background, abilities, behaviour and learning preferences (Hobgood & Ormsby, 2010). Consequently, the challenges that most teachers faced everyday are to cater to students with different levels of development or readiness. Most education system nowadays has succumbed to stream the students; the low ability students will be filtered into the low ability class whereas the high ability students will be placed in the high ability class. Some studies found that by streaming the students, the teacher can plan his or her lesson very easily since majority of the students are of equal ability, whilst for the students with low self-esteem can feel comfortable among their peers of equal ability. However, it is impossible to filter students of equal ability in one class (Di Martino & Miles, 2005). Instead, such streaming provide teachers the space to overestimate the students' ability in the high ability class and unconsciously restricting the students' learning in the low ability class due to underestimating their potential (Wiliam & Bartholomew, 2009).

According to Kilgour (2009), the impact of streaming students into the low ability class was found to be negative (Kilgour, 2009). However, even though streaming is typically done in the context of Brunei Darussalam, such as the study conducted by Yassin, Shahrill, Jaidin and Harun (2015), there are a lot of factors that could influence the students' learning and the most influential person is the teacher (Attard, 2009). Hence, teacher-student interactions drive the productivity of a lesson. This coincides with Hannah (2013) who stated that one of the ways in having a good teacher-student interaction is by fully utilising the classroom settings, one of which is in organising the desks appropriately. Consequently, the aim for this study is to distinguish the dynamics of the teacher-student interactions in a mathematics classroom using two different settings: (1) individual setting and (2) paired setting. Note that the interaction context in this present study is different from the studies conducted and reported in Salam and Shahrill (2014), Shahrill (2009), and Shahrill and Clarke (2014). Their studies specifically focused on the classroom interactions involving the exchange of 'talk' or discourse between the teacher and the students.

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OCCURRENCES IN THE CLASSROOM

A study conducted by Pettigrew, Miller-Day, Shin, Hecht, Krieger and Graham (2012) confirmed the importance of a teacher's control. Their study specifically analysed teachers' control in the classroom and their respective students' engagement. The teacher control was coded as passive, strict and coordinated, whilst the student engagement was classified as disconnected, attentive and participatory. Some form of patterns was also discovered in the findings. Passive teachers were usually associated with attentive or disconnected students. On the other hand, coordinated teachers result in attentive or participatory students, and strict teachers result in attentive students.

Effective teacher-student interaction is crucial as it creates, firstly emotional support, which constitutes a positive relationship with one another, and secondly classroom organisation, from the aspect of well managed classrooms, as well as instructional support, interactions that teach the students to think, provide ongoing feedback and support, as well as facilitate language and vocabulary (University of Virginia, 2014).

According to Hiebert and colleagues (2003), there are five pedagogical features that influenced the lesson clarity and flow of the mathematics lesson sequences. The goal statements and lesson summary statements are the first and second features identified to influence the mathematics lessons as these enhances the clarity of the key ideas or major points given to the students during the lesson. While the three different kinds of interruptions, such as outside interruptions, engaging in non-mathematical activities and any off-topic public announcements may somehow break the flow of the mathematics lesson. In particular, there may be potentially frequent instances of uneven flow within the entire length of the mathematics lessons taught when outside interruptions simultaneously occurred. Several other findings reported by Leonard (2003), Foerde, Knowlton and Poldrack (2006), Shahrill (2009) and Shahrill and Clarke (2015) are such that students are sometimes distracted from the class activity, there is a decrease overall in the students' learning process, and the time spent in learning mathematics may be affected because the 'interrupted' lesson times could have been used effectively for instructional purposes.

Studies such as Anderson and Keith (1997) and Steinberg, Dornbusch and Brown (1992) indicated that one of the major predictors that contribute to poor academic performance is student engagement. According to Bonus and Riordan (1998) who conducted a study on changing and improving classroom seating arrangements to help children stay on task and reduce distractions. They concluded that the causes of students having trouble staying on task were related to seating arrangement, seating proximity to the teacher, ability levels, and lesson taught. In addition, the powerful effect of having peers in the experience of learning was discovered to have a positive impact on student academic motivation and achievement. This has led to the development of cooperative learning in classroom aimed to increase students' motivation and consequently, students' achievement.

COOPERATIVE LEARNING

In general, cooperative learning involves students working in groups to help one another in their learning process. According to Slavin (2010), cooperative learning can be categorised into two main bodies, structured team learning and informal group learning methods. Some examples of structured team learning are Student Team Learning (STL), Student Team-Achievement Division (STAD) and Peer-Assisted Learning Strategies (PALS), whilst informal group learning methods are jigsaw and group investigation. Upon implementing the cooperative learning strategy, two elements must be present in order for the learning to be effective. Firstly, group goals must be defined. An example of a group goal is to achieve a certification. Another element is individual accountability; the success of the learning must depend on the individual learning of all group members.

Extracted from Slavin (2010), Figure 1 shows the interdependent relationships among the components, which begin with a focus on group goals based on learning of all group members, followed with motivation. Motivation plays a big role in facilitating group interactions such as peer modelling, peer tutoring, cognitive elaboration, peer practice and peer assessment and correction, which result to enhance the students' learning.

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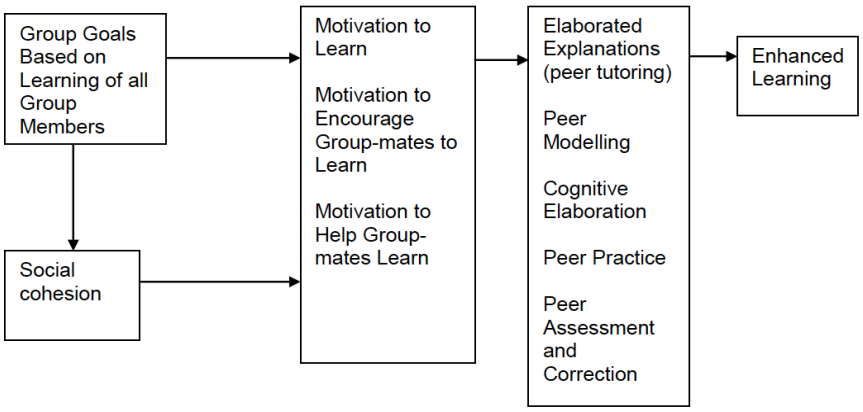

Figure 1: How cooperative improves learning (Slavin, 2010)

PEER-ASSISTED LEARNING STRATEGY (PALS) – 'TWO HEADS ARE BETTER THAN ONE'

Peer-assisted learning is a learning approach where learners pair up and take turns to role-play as teacher and learner. Various studies of this strategy have been done, especially in the area of reading in the elementary level (Rohrbeck, Ginsburg-Block, Fantuzzo & Miller, 2003; Patterson, 2013).

There are three main focus on PALS as mentioned by Fuchs, Fuchs, Hamlett, Phillips and Bentz (1994) in which PALS have the potential to: (1) meet the needs of all learners rather than just a few, (2) allow teachers to maintain a comfortable degree of control and (3) encourage students to take more responsibility for their own as well as for their peers' learning. It was also claimed that PALS could increase confidence amongst students, as well as to maintain students' retention of knowledge (Capstick, 2004). Another study by Kroeger and Kouche (2006) took place in a large middle school near a large city in the Midwest in which PALS were implemented in inclusive mathematics classrooms. The net result was increased engagement and positive response and confidence levels rise in many of lower ability students.

THE STUDY

Brunei Darussalam is a small country in Southeast Asia and it is the only sovereign country located on the Borneo Island. In 2009, the Ministry of Education officially implemented the reformation of the education system known as *Sistem Pendidikan Negara Abad ke-21* or SPN21, and translated in the English Language as the National Education System for the 21st Century (Ministry of Education, 2013).

In the SPN21 various programmes were introduced that aim to help students whom are at risk of failure. One of the programmes which was introduced was the *Pengukuhan Kemahiran Asas* Programme (also known as PEKA) or in English, the Basic Skills Strengthening Programme. PEKA programme is a six months intensive programme aims to improve the students' numeracy skills. The students were selected based on only having one or two passes in their *Penilaian Sekolah Rendah* (PSR) or the Primary School Assessment during their Year 6 (reported in the online news article of the Borneo Post "Special Attention on Weak Students" in 2012). These students were then given a numeracy diagnostic test during Year 7 and those who failed the test will be channeled into the PEKA programme.

The objective of this study is to analyse and compare the teacher and students' behaviour in the Individual Setting (IS) and the Paired Setting (PS). The sample used for this study is a convenient small-scale sample from the Year 7. There exists a conflict in the number of students between the settings, IS and PS. When the IS was conducted, the number of students that were present were 13 students, however, when the PS was implemented, there were a few absentees and thus, only 9 students were taken into account.

In Brunei Darussalam, the country stands on the principle of *Melayu Islam Beraja* (MIB) or the Malay Islamic Monarchy. Therefore, no pairing of mixed gender was typically allowed. This is a common practice for most secondary schools in Brunei Darussalam. Another limitation was the video recording where some of the scenes were not clear because of the camera positioning and the type of camera that was used during the study. Therefore, due to these factors, the results produced from this study may be affected in one-way or another.

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METHODOLOGY

This study is descriptive which concerns with the existing conditions or attitudes and point of views happening in an event that results in the researchers to find the cause and effect prevailing in the norms (Best, 1970). Data collection comprised of qualitative and quantitative approaches.

Sample

The sample is a convenient sample of nine students from one Year 7 PEKA class in one of the secondary schools in Brunei Darussalam. One of the researchers was the teacher whereas the other was the observer. Due to time constraints, the video recordings were only conducted for one lesson with IS and another lesson with PS. The topic chosen to teach the students during both settings was a convenient topic called the multiples of any whole numbers.

Instruments

Data were collected using an audio recorder and two video recorders. The audio recorder was used to audio record the pre and post interviews. Both interviews were semi-structured interviews. The two video recorders were placed strategically where one was placed at the front of the class to capture the students' behaviour, whereas the other video recorder was placed at the back of the class facing the teacher so as to record the teacher's behaviours or gestures used during the lessons. The Paint application along with the QuickTime Player was used to record the teacher's movement, which was reenacted manually by the researchers based on the two videos from both settings playing 8 times the normal speed.

Analysis

The pre and post interviews were transcribed and analysed by searching for general and common themes. The two videos were systematically analysed using the steps shown in Figure 2. This should help to reduce biasness and increase the integrity of an individual's interpretation.

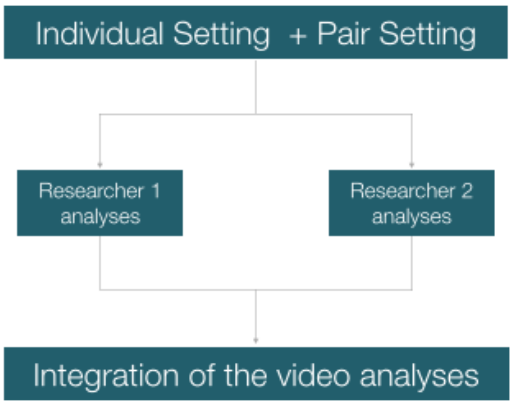

Figure 2: The systematical method of analysing the two videos

The two video recordings were analysed separately by two researchers. Subsequently, the two researchers met and shared their analyses. During such meeting, both researchers came to an agreement on the integration of the video analyses and found the general themes from the two settings. Meanwhile, in terms of the teacher's movement, since the researchers had post-recorded the movement of the teacher in both settings, it was analysed basing only on the contrast of the colour 'spray' used to reenact the teacher's movement in both settings, that is, the longer the teacher spent time in one particular area in the classroom, the darker the colour became.

Design Framework of the Study

Before the students were subjected into the research study, the teacher used the results from the three mental mathematics tests given to the students earlier during the school term. Since the topic of the study is of convenience (multiples of any whole number), the three test results assisted the teacher to identify the students' ability levels categorised as low, medium and high. This can be seen in Figure 3 below.

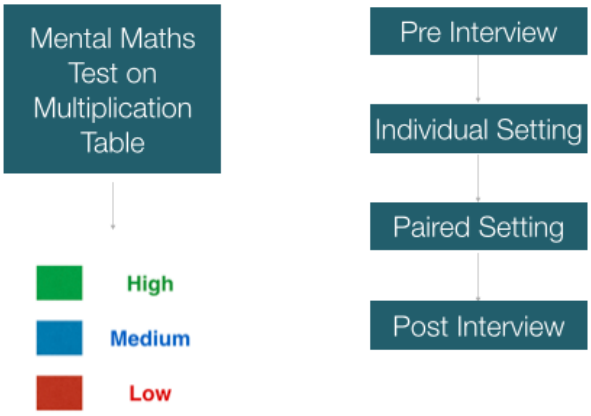

Figure 3: The design framework of the research

Based on Figure 3, after the teacher has identified the students' ability, the students were then interviewed individually. This was then followed by arranging the students to be seated according to the IS as shown in Figure 4.



Figure 4: The seating arrangement during the individual setting

Subsequently, the teacher used the pre-planned seating chart for the 13 students whom were present during the IS for the PS. One of the boys did not have a partner because from the pre-interview, he verbally requested not to be partnered with anyone else. For the remaining students, majority of them were being paired according to medium ability with the low ability. After the PS lesson, a post interview was conducted.

As was mentioned earlier, the study started with 13 students in IS, but only 9 students were present during the PS. And thus, a revised pre-planned seating chart was presented as shown in Figure 5 below.

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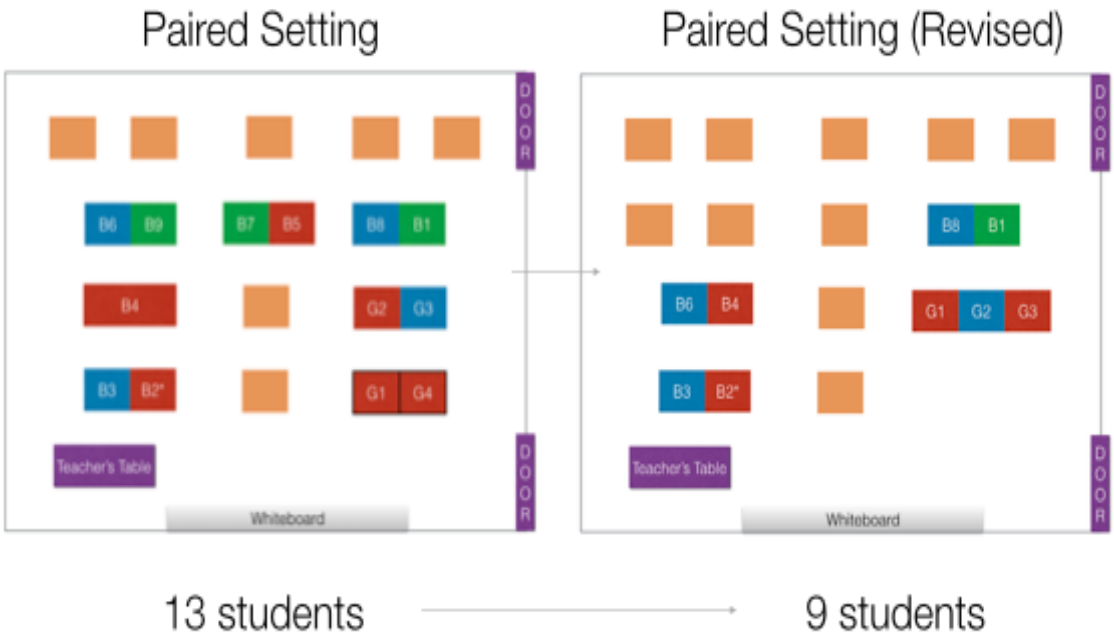

Figure 5: The pre-planned and revised paired seating arrangement settings

RESULTS AND FINDINGS

Video Analyses

When the analyses of the video recordings were completed, there were four occurrences that emerged from the two recordings.

Interruptions

In this section, the number of times the teacher interrupted her own lesson to call out students who were misbehaving were taken into account. The term 'misbehaving' here refers to students who were not paying attention, students who talk while the teacher was teaching, and students who disrupted their fellow peers from learning. It was found that there were more occurrences of misbehaviour in the IS than there were in the PS. In total, there were seven such occurrences in the IS in comparison to three occurrences in the PS.

At the beginning of the IS lesson, as was observed from the video recording, G4 (refer to Figure 5) was not paying attention because she was sitting near the window and her attention was diverted towards the happenings outside the classroom. The teacher did not realise this because her spatial view was limited towards the boys in which most responses came from them. However, when the teacher did notice G4's lack of attention, she had to pause the lesson and instructed G4 to listen. This interruption caused the other students' attention to move towards the said student and thus disrupted the flow of the lesson. The reason that there is room for disruption by G4 may be due to the lack of attention given by the teacher towards the girls in particular. Another similar interruption during IS lesson came from an unlikely source, which was from the high ability student, B7 (refer to Figure 5). This happened at the time when the teacher directed her attention to the girls, which immediately resulted in the boys to misbehave. Another factor that caused the interruption was that B7 completed his work earlier than the others. Hence, the major factors that clearly caused the interruption were due to the lack of balanced attention and providing challenging questions to higher ability students.

During the PS lesson, there were fewer interruptions because each individual was assigned with a partner. Since the teacher instructed the students to assist one another at the beginning of the lesson, they were observed to do so and hence were constantly occupied to do their work. However, there was an interruption that was not caused by misbehaviour but merely a student (B2) (refer to Figure 5) interrupting the teacher to seek help in how to respond to the work given. During that time, the teacher was helping a pair of students at the back of the class. This disrupted the teacher's explanation to the said pair.

Students' engagement

Based on the IS video recordings, it was observed that there were fewer students' engagement than the ones on the PS. The teacher gained more responses from different students in the PS as compared to the IS. When the

students were placed in the IS arrangement, apart from seeking the teacher's attention, they alone were responsible for their own learning. Due to this, the students were less engaged. It became more apparent from the student (G1) (refer to Figure 5) who was perceived to have very low self-esteem. However, during the PS lesson, all the students were actively engaged in their learning and this may possibly be due to having a partner that kept themselves busy and constantly working instead of waiting for the teacher. Through their partners as well, they can expand their ideas and work together in solving the problems. By pairing up the students, it gave opportunities, especially for G1, to be more engaged in their learning.

Teacher's attention

As mentioned previously, during the IS lesson, it was observed that the teacher's attention was directed more towards the boys. This is because they were more active in answering the teacher's questions. Another possible factor may be due to the arrangement of the students' seating, boys on the left whilst girls on the right. Henceforth, this led the teacher to place two boys behind the girls' seats in the PS lesson. By doing this, the attention span the teacher gave became more divided. As a consequence, the girls participated more in the classroom by responding to the teacher, which was noticeably a rare occasion. A simple act in arranging how the students were seated thus brings about a huge difference in the students' behaviour in the classroom.

Teacher's trails

For this particular occurrence, the researchers used the Paint and QuickTime Player applications to reenact the teacher's trailing that has been visually recorded. In both lessons, the teacher taught the whole class in the beginning and then gave the students classwork to complete, whilst the teacher wandered around to check their progress as well as to answer students' questions. Hence, the time taken for the students to complete the classroom tasks was also recorded, and it was found out that 60.4% of the time was used to complete tasks in the IS whereas it took 57.5% in the PS. This shows that the duration on both settings is relatively similar and hence both the trailing is relatively comparable.

According to the Paint application, the colour of the spray gets darker if the spray stays in the same position. In other words, the darker the colour gets, the longer the teacher stays in that particular spot. In Figure 6, the brown colour spray represents the teacher's movement and these are the still images that came from the end of the video recordings.

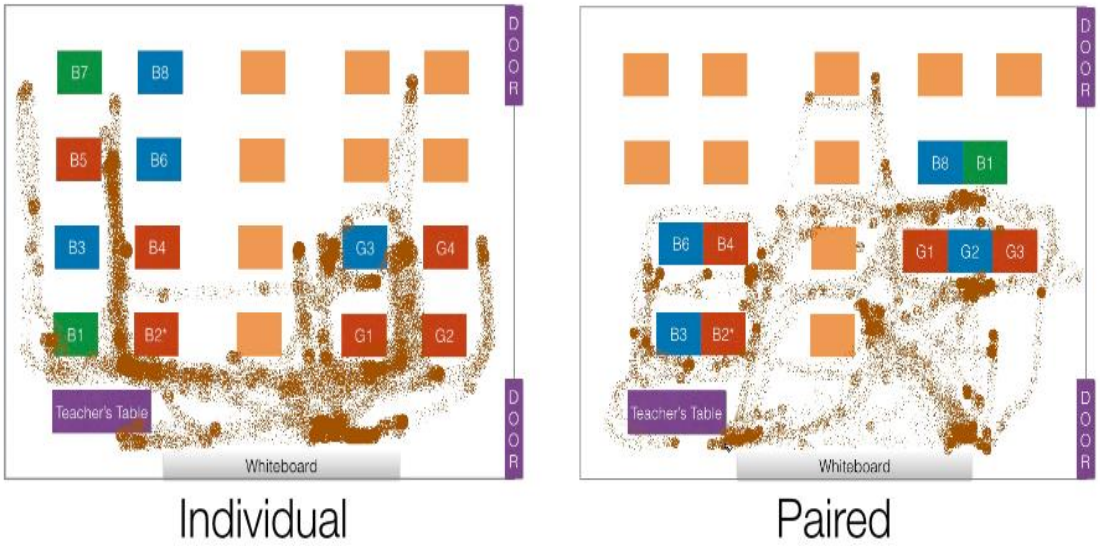

Figure 6: The teacher's movement between the IS and the PS

From Figure 6 above, it shows clearly that the teacher in the IS figure had a higher concentration in the colour of the spray as compared to the PS. This shows that the teacher spent too much time in giving a one-to-one tutorial for the students and simultaneously giving more individual attention to the students. In contrast to the PS image, the teacher did not stay too long because by pairing the students, the teacher gained four new assistants. Hence, the PS lesson made the students to become independent (learner) from the teacher than in the IS.

Interviews

Only seven students were pre-interviewed; four low ability students, two medium ability students, and one student from the high ability category. Even though this was a low ability class, only two of the seven students did not like

mathematics due to its difficult nature (G1), and poor experience with the previous mathematics teacher (B4). Coincidently, when questioned about their preferences in learning mathematics, B4 and G1 preferred to work alone. This was because of their individual personality. However, during the PS lesson, B4 was paired up with a medium ability student, B6 to even the pairing. Surprisingly, he admitted that he liked being paired and worked well together with B6.

For the post interview, only six students were selected. The two students with high (B1) and medium (B3) abilities were paired during the PS lesson. When B1 was questioned on whether he was more dominant than B3, B1 denied it and said that they came up with a system where they would exchange roles of leadership after each question, despite knowing their different ability. This shows the value of teamwork. They were willing to be fair with each other and to share their workload together. Another discovery was on a student's motivation to learn. She (G1) preferred to have a partner with a better ability in mathematics compared to her own. This indicated her perception on the aims of PALS, where perhaps it was to learn from her peers instead of learning from one another. On the other hand, teacher perceptions and training also play an important role in the aspect of successful implementation. It is vital that students' roles and expectations, as well as teacher roles are clearly understood.

CONCLUSIONS

This study confirms the advantages of PALS as claimed by previous studies as there were more positive traits in the PS rather than in the IS. Less interruptions of the lesson in the PS imply that the need to control the class significantly decreased, which is a good start to make the classroom environment to be more conducive to learning. More students' engagement and less teacher movement in class indicated that the students took more responsibility on their own and their peers' learning, which means that the strategy, PS, has the potential to train students to be independent learners. Through the PS, it was also discovered that dividing teacher's attention evenly to the students could lead to more responsive students. In other words, to have eye contact with students as much as possible during teaching is important to get the students to participate in the lesson.

Watcyn-Jones (2002) stressed that once the pair work activity has actually started, the students should work independently of the teacher and their own pace. The role of the teacher while this is going on is monitoring the students' progress by walking round the classroom pausing briefly beside each pair, listening to them and noting any problems which can be taken up later on with the whole class. Therefore, the teacher's role during pair work activity can be summarised as follows:

- The teacher needs to be 'well-organised' by giving clear and explicit instruction;
- To keep activities simple yet challenging;
- To carry out selective checking;
- To control the noise level as necessary; and also
- To provide feedback.

Regrettably for this study, the students' achievement was not measured due to the limited time frame and that the analyses were observation-based only, which is subjective. For future researchers who wish to pursue further in this area, it would be interesting to look into the themes for other forms of cooperative learning, for several times in different topics. Student-student interaction should also be the focus of future research. Another suggestion is to incorporate differentiated instruction alongside the cooperative learning. Differentiated instruction is an approach that requires the teacher to be flexible in their teaching and to modify their methods of presenting information to the students rather than making the students fit into the curriculum (Hall, 2002). By doing so, it may aim to maximise the students' learning in the classroom, especially in a mixed ability class.

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Towards A Resilient World

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ABSTRACT
The investigation is titled, 'A Study of Secondary School Students' Response to Adversity with certain Psychological and Performance Factors studied AQ (Adversity Quotient) with reference to Academic Motivation, Stress, Self-Esteem (Psychological Factors) and Academic Achievement (Performance Factor).The study is of descriptive-co-relational type. The sample for the study included 832 students of class IX studying in different boards of affiliations in Greater Mumbai. Descriptive analysis was carried out using Measures of Central Tendency and Variability. Inferential techniques used were ANOVA, t-Test, Pearson's Product Moment Co-relation. The findings suggest that the secondary school students had 'Low AQ'. The present paper focuses only on Adversity Quotient of Secondary School Students.

Keywords: Adversity, Resilience

INTRODUCTION

Education is under increasing pressure to create successful students. Education, in the present day context, is perhaps the single most important means for individuals to improve personal endowments, build capability levels, overcome constraints and, in the process, enlarge their available set of opportunities and choices for a sustained improvement in well-being. It is not only a means to enhance human capital and productivity but it is equally important for enabling the process of acquisition, assimilation and communication of information and knowledge, all of which augments a person's quality of life. It therefore plays a crucial role in shaping the citizens of tomorrow, citizens who are responsible, accountable, sincere, robust, emotionally healthy and resilient. 'Resilience' is one such virtue that needs to be acculturated in generation of today. Children of today are subjected to unpropitious or calamitous circumstances. These can occur at school, home, neighborhood or society. Events such as child abuse, bereavement, rape, Physical illness, marital separation or divorce of parents, unemployment, and homelessness are a regular feature these days. These situations also vary with gender, ethnic or racial background, and socioeconomic status and some types of adversity are precipitated by an individual's own actions. The level of resilience influences the personal and academic life of learners thus manifesting varied consequences on their personal and academic life. The study in its earnest spirit intends to gauge how the level of resilience is related to a learner's psychological and performance factors namely academic motivation, stress, self-esteem and academic achievement respectively.

1.1: Need and Significance of the Study

Different people respond to adversity differently. Also what is adverse for one person may not be adverse for another. Day in and day out, children all over the world face situations that are untowardly, unpleasant and least expected. Some face stresses such as failure or illness while others confront catastrophe — war, poverty, disease, famine, floods. Whether such experiences crush or strengthen an individual child depends, in part, on his or her resilience. Resilience is important because it is the human capacity to face, overcome and be strengthened by or even transformed by the adversities of life. Everyone faces adversities; no one is exempt. With resilience, children can triumph over trauma; without it, trauma (adversity) triumphs. The crises children face both within their families and in their communities can overwhelm them. While outside help is essential in times of trouble, it is insufficient. Along with food and shelter, children need love and trust, hope and autonomy. Along with safe havens, they need safe relationships that can foster friendships and commitment. They need the loving support and self-confidence, the faith in themselves and their world, all of which builds resilience. The manner in which an individual responds to adversity is based on the interrelatedness of several factors and adversity itself defines several factors and its effects on students. A very recent article by Kounteya Sinha captured the attention of the researcher. It indicated how changing society, stress, reducing social support and increasing adversities lead to non-fatal deliberations amongst individual of mean age of around 15 years. The story of the children in Mumbai is not different from the rest of the world. According to The Times of India, Mumbai for Kids Initiative, the face of Mumbai has changed within a generation. Low-rise residential colonies and open spaces have given way to clusters of building that soar above the city and shut it down. The effect on children has been telling.**2** These facts are indicative of the conditions that children of today are growing up in and thus provide a very strong reason to take up research in the area of resilience. Research indicates that resilient students do well in school despite adversity, and that students thrive in a conducive environment. These conditions need to be investigated, to

validate them for school students and hence justifies the need to conduct this research. On the other hand, the continuous need of performing well in school and the emerging competition makes the child succumb to disturbances and psychological problems, which in turn may affect their performance in schools. In schools as well as at home, children face number of predicaments such as learning difficulties, high expectations, adverse remarks, exclusion by peers, bullying and teasing are some to mention. Not all the humans, in this case students are capable of handling these adverse or not so favorable situations. Resiliency research offers the prevention, education, and youth development evidence for placing human development at the center of everything that humans do. With the expansion in the various modes of adversity like family adversity, workplace adversity and societal adversity, there is also an emergence of environmental adversities currently that include floods, earthquakes, cyclones, building collapses and so on. The city of Mumbai has witnessed many of such unpleasant and unexpected incidences. Every day school students encounter a vast array of adversities in Mumbai like uncalled strikes, violent attacks, terrorists' attacks, lack of healthy environment and poor infrastructure. The after effects of which are more dangerous to cope up with, than the adversity itself. Schools play a very important role in such situations. There are several implications that can be drawn from the present research to inform practice for the various stakeholders in the educational fraternity. The next section looks at the level of Resilience(AQ) of School Students through descriptive and inferential analysis.

1.3: Levels of AQ (Based on Mean Scores)

Table: 1.1
Levels of Adversity Quotient
of Secondary School Students of Mumbai

Group	Mean AQ Scores	AQ Level
Total	121	Low
Gender wise		
Male	121	Low
Female	121	Low
School Types		
CBSE	120	Low
ICSE	119.04	Low
SSC	122.71	Low

(CBSE: Central Board of Secondary Education)
(ICSE: Indian Council of Secondary Education)
(SSC: State Board of Secondary Education)

Table: 1.1 indicates that, the secondary school students mean AQ score is low for the total sample and on the basis of gender and school types. With their respective mean scores, the total sample, Male and female secondary students and students belonging to different boards are in the category of low AQ. This is reflective of the lack of protection factors related to family, school and community which are unable to develop the power of resilience among children to the desired extent. A recent article in The Times of India reported how a standard IX student of a Chennai based school stabbed his teacher to death as he could not handle her adverse remarks against him and the constant adverse reports send by her to his parents. This indeed can be looked as a consequence of low resilience in today's generation of school children and their ability to deal with it in the goriest manner. School children face a number of critical situations in the life in varied form ranging from ragging, bullying to undue influence of peers. A recent article in the DNA reported how cyber-bullying largely considered a western phenomenon is making its dubious mark in India. Children of today are not fully equipped to tackle such adverse conditions and this is indicative of their low resilience.

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1.4: Levels of AQ (Based on Percentage)

Figure: 1.1
Bar Graph of the % of Students' AQ Levels for
Total sample and on the Basis of Gender

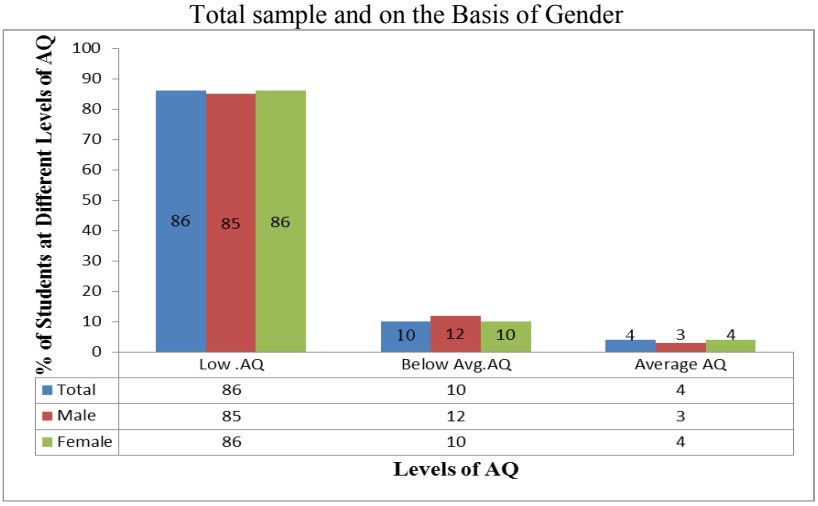

Figure: 1.1 indicates that, the percentage of secondary school students with low AQ is the highest followed by below average AQ and average AQ for total sample. Majority of the male and female secondary school students have low AQ. This indeed is a critical condition as of today. Both boys and girls face a number of critical situations in their daily life which occur in school or at home. These include uncaring attitude of parents and teachers, more than high expectations, competition, less time for recreation or virtual absence of it are some to mention. These situations are common to both boys and girls. At times these adversities overpower children resulting in unexpected outcomes ranging from self-harm to suicidal tendencies. Inexplicably, teenage suicides have become an almost daily occurrence in Mumbai. The toll of teenage suicides from the beginning of the year until 26 January 2010 stood at 32, which is more than one a day. Consequences of low resilience are even seen in the form of carnages by school and college students.

Figure: 1.2
Bar Graph of the % of Students' AQ Levels
the Basis of School Types

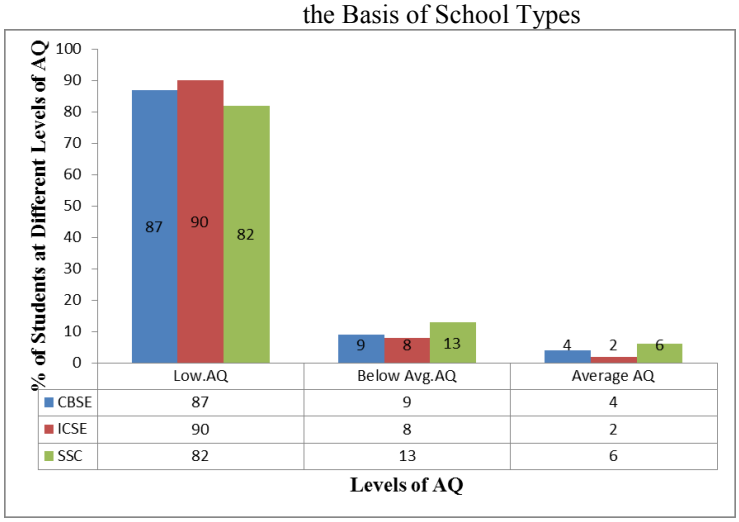

Figure: 1.2 indicates that, majority students from the CBSE, ICSE and SSC schools have low AQ. The percentage of students with below average and average AQ is highest for the SSC school type followed by the ICSE and the CBSE school types. The percentage of students with average AQ is highest for the SSC followed by CBSE and ICSE school types. Students face number of adversities in schools irrespective of the school type which include, uncaring attitude of teachers and heads of the schools, constant fear of being reprimanded for one's actions, adverse reports by teachers, biases of different kinds against the student, teasing and bullying by peers are some to mention.

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1.5 Testing of Hypothesis

Hypothesis states that there is no significant difference in the secondary school students' response to adversity on the basis of
i. Gender
ii. School Types

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Table: 1.2
t-ratio for AQ Scores of Secondary School students on the Basis of Gender

Groups	**N**	**Mean**	**S.D**	**t-ratio**	**L.O.S**
Male	439	121	13	0.932	Not Significant
Female	393	121	12.4		

(Critical value of t at 0.01 and 0.05 LOS is 2.58 and 1.96 respectively)

From Table: 1.2, ***No significant difference*** was found in the secondary school students' response to adversity on the **basis of gender**. The mean AQ scores indicate that the male and female secondary school students respond to adversity in the same manner. This means that both the boys and girls perceive themselves to be in control of adverse events and take responsibility for its outcomes to the same extent. They perceive good bad events reaching into other areas of life and the time frame of these good and bad events to the same extent. This is because both male and female students face adversities, the strength and magnitude of which may differ. In today's world both boys and girls are provided with similar environment at home and school. The gender roles are more or less similar which results in the males and females to face almost similar challenges, the form of which may differ. This is also indicative of the reduction in gender biases in the society, where earlier gender roles were stereotyped.

Table: 1.3
Analysis of Variance of AQ Scores of Secondary School Students on the Basis of School Types

Source of Variation	Sum of Squares	df	Mean Sum of Squares	F ratio	Level of Significance
Between Groups (SSb)	1933	2	966.5	6.012	0.01
Within Groups (SSw)	1.3326E+05	829	160.8		

(Critical value of F for df1=2 and df2 = 829 at 0.01 LOS is 4.61)

Table: 1.4
t-ratio for AQ Scores of Secondary School Students on the Basis of School Types

Groups	N	Mean	S.D	t-ratio	Level of Significance
CBSE ICSE	290 197	120 119.04	12.6 11	1.10	Not Significant
CBSE SSC	290 345	120 122.71	12.6 13.7	2.35	0.05
SSC ICSE	345 197	122. 119.04	13.7 11	3.23	0.01

(Critical value of t at 0.01 and 0.05 LOS is 2.58 and 1.96 respectively)

From Table: 1.3 and Table: 1.4, There was a ***significant difference*** found in the secondary school students' response to adversity on the **basis of school types**. No significant difference was found in the AQ for the students of the CBSE-ICSE school types. But a significant difference was found in the AQ for students of CBSE-SSC and

SSC-ICSE school Types Mean scores indicate that the secondary school students belonging to the SSC school type have higher AQ than the students of the CBSE and the ICSE school types. This means that they perceive more control, ownership, reach and endurance as compared to the CBSE and ICSE school students. The higher AQ of SSC students can be attributed to the notion that explains how risk and protection factors affect the power of resilience. School education has undergone a tremendous transformation in recent years. Schools now willingly want to improve and enhance the protective factors that nurture children. This development has also been seen in the SSC board schools, which were once labeled as not being at par with the current trends in education as the CBSE and the ICSE school types. SSC schools now provide a number of protective factors and mechanisms that contribute to the development of resilience through a more comprehensive curriculum and upgradation of its physical and human resources. Also the students of the SSC schools come from a more humble background which provides them with a number of challenging situations thus enabling them to develop mechanisms to deal with them. The AQ of students belonging to the CBSE-ICSE school type does not differ significantly. This may be because of the near similar curriculum that these schools provide. The students of the CBSE-ICSE schools are relatively similar as far as their familial factors are concerned in terms of the social status they enjoy and the economic stability in their families resulting from their parent's profession. The dynamics of these socio-economic-cultural factors result into them responding to adversities in a similar way.

1.6: Educational Implications

1. The findings of the study reveal that the secondary school students are at a level of AQ that can be described as low. This implies an immediate inclusion of programmes that can enhance AQ for these students. A shift of approach to practical life-skill based learning is advisable for the students to surpass adversities with success.
2. The school curriculum for all the three boards can include AQ development and enhancement programs. This can be implemented through the syllabus, co-curricular and the hidden curricular. activities that bring students closer to people having experienced adversities should be included in the form of social and community service. Children should be provided with an opportunity to contribute to the school environment and the larger community, within their capacity. Research has shown that children, who are given such opportunities, are less likely to show problematic behavior as they get older, when compared with matched peers.
3. Developing and implementing educational experiences that foster AQ can be as easy as gaining a new perspective on traditional academic activities. The use of more contemporary text books catering to different cultures, ethnic backgrounds should be referred to apart from the prescribed text books.
4. Teachers can infuse the varied themes of resilience into everyday academic instruction across subject areas, either as repeated learning experiences or as themes for long-term group and class projects.
5. The curriculum should teach social and other life skills such as active listening, friendship making, decision making, problem solving and assertiveness.

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Towards Marginalizing Dysfunctions In Elections: Observations And Perceptions On The May 10, 2010 Automated Elections In Iloilo City, Philippines

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ABSTRACT
This study sought to explore the observations and perceptions of four groups of voters on the automated elections in the Philippines held for the first time on May 10, 2010, and to determine implications of findings to marginalizing election dysfunctions.

Six hundred sixty four (664) from 185 precincts in Iloilo City, in the Western Visayas Region of the Philippines, served as respondents, representing four groups: deputized poll workers, political candidates, electoral staff, and voters. The survey covered four aspects of automated election: (1) technical reliability (2) administrative procedures (3) attitudes towards automated election and (4) attitude towards the Commission on Elections (COMELEC).

Results indicated generally "High" ratings by the electorate groups, with deputized poll workers giving the highest ratings for all aspects of automated election. Results yield statistically significant differences among the electorate groups. Implications to electorates' confidence, public trust and national security are drawn to include education of the electorate, training of the electoral staff and poll, and strengthening of the law.

BACKGROUND
Automated election is a newly introduced intervention system intended for marginalizing or minimizing election fraud in the Philippines. Considering its novelty in the country, a certain degree of conceptual dissonance had been expressed among the electorate. Uncertainty is generally experienced or activated as caused by discrepant thoughts, beliefs, or attitudes. It is the position of government that automated election has to be adopted as a measure to marginalize election dysfunctions. To be able to do that, there's a need to know what the voters are thinking, what attitudes they have, and what their needs are for training and education about the issue in order to achieve social / public acceptance.

OBJECTIVES OF THE STUDY
This study aimed to determine the observations and perceptions of the electorates (i.e. political candidates, Commission on Elections (COMELEC) Staff, deputized poll workers, ordinary voters) during the May 2010 automated elections, and its implication towards marginalizing dysfunctions in elections.

Specifically, this paper intended to pursue the following objectives:

1. To determine the observations and perceptions of electorate groups, on the different features of technical
   reliability of automated elections:
2. To determine the observations and perceptions of electorate groups on the administrative procedures of automated elections.
3. To determine the electorate groups', levels of confidence and attitudes towards automated elections.
4. To determine the levels of attitude of electorate groups towards the COMELEC as an institution administering the automated elections.
5. To compare the attitudes and observations of the different electorate groups on the four dimensions of automated elections.

SIGNIFICANCE OF THE STUDY

- Expressed views of the electorate i.e., ordinary voters, political candidates, poll workers, and the COMELEC staff render significant information relevant to decision-making of policy makers who need premises to support legislation or revision of laws.

- Results of the study will also be useful to decision makers of the Commission on Elections (COMELEC), educational institutions and public administration in planning interventions on the risks and benefits of automated elections, as well as in refining administrative procedures needed in the conduct of elections.

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- Results could also be basis for investors and technology developers to enhance the functions and provision of alternative technical services in the election process.
- Results of the study will mirror back to electorates their depth in understanding of the different aspects of automated election.
- Results provide objective and unbiased feedback to the different groups of electorate about automated elections in its various ramifications.

THEORETICAL FRAMEWORK

Figure 1. illustrates the application of the Piaget's schema theory in the context of the introduction of automation as a new approach in the conduct of elections.

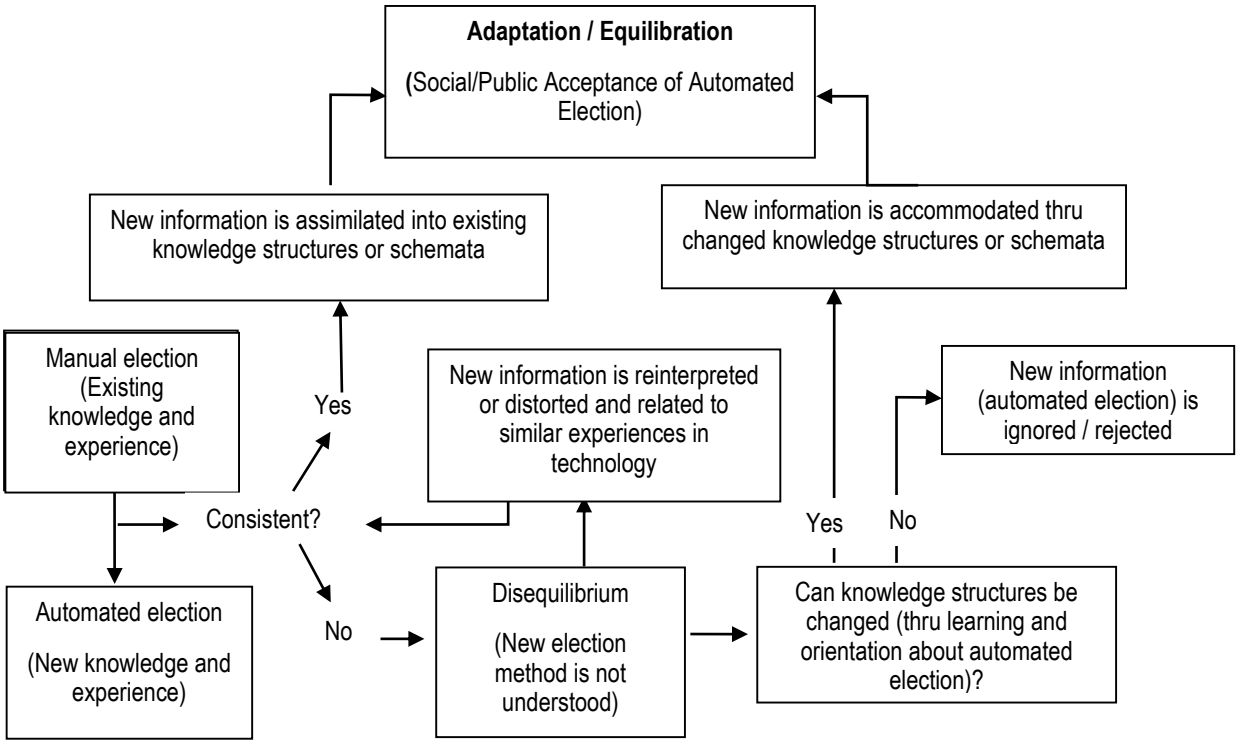

Figure 1. The Process of Adaptation / Equilibration

Adapted from Piaget's theory of cognitive development in Solso, Robert L. (1995).

The theory suggests that if new information (automated election) is introduced, either of three things will happen. (1) If the new information is familiar or consistent with existing knowledge structures and previous experience, without any discrepant thoughts and reservations, it will be easily assimilated resulting to equilibrium and adaptation to change. (2) If the new information is not understood, or is not consistent with existing knowledge structures and previous experience, it is resisted. A reinterpretation or clarification could lead to assimilation. (3) If the new information is entirely foreign or contradictory to existing knowledge structures and experience, it will be continually rejected. Interventions such as training or reorientation are needed to create new knowledge structures that will lead to accommodation and eventually equilibrium and adaptation is achieved. Thus, adjustments brought about by education or reorientation could spell a shift or positive experience with automated election and eventually incline behaviour toward understanding and acceptance.

CONCEPTUAL FRAMEWORK

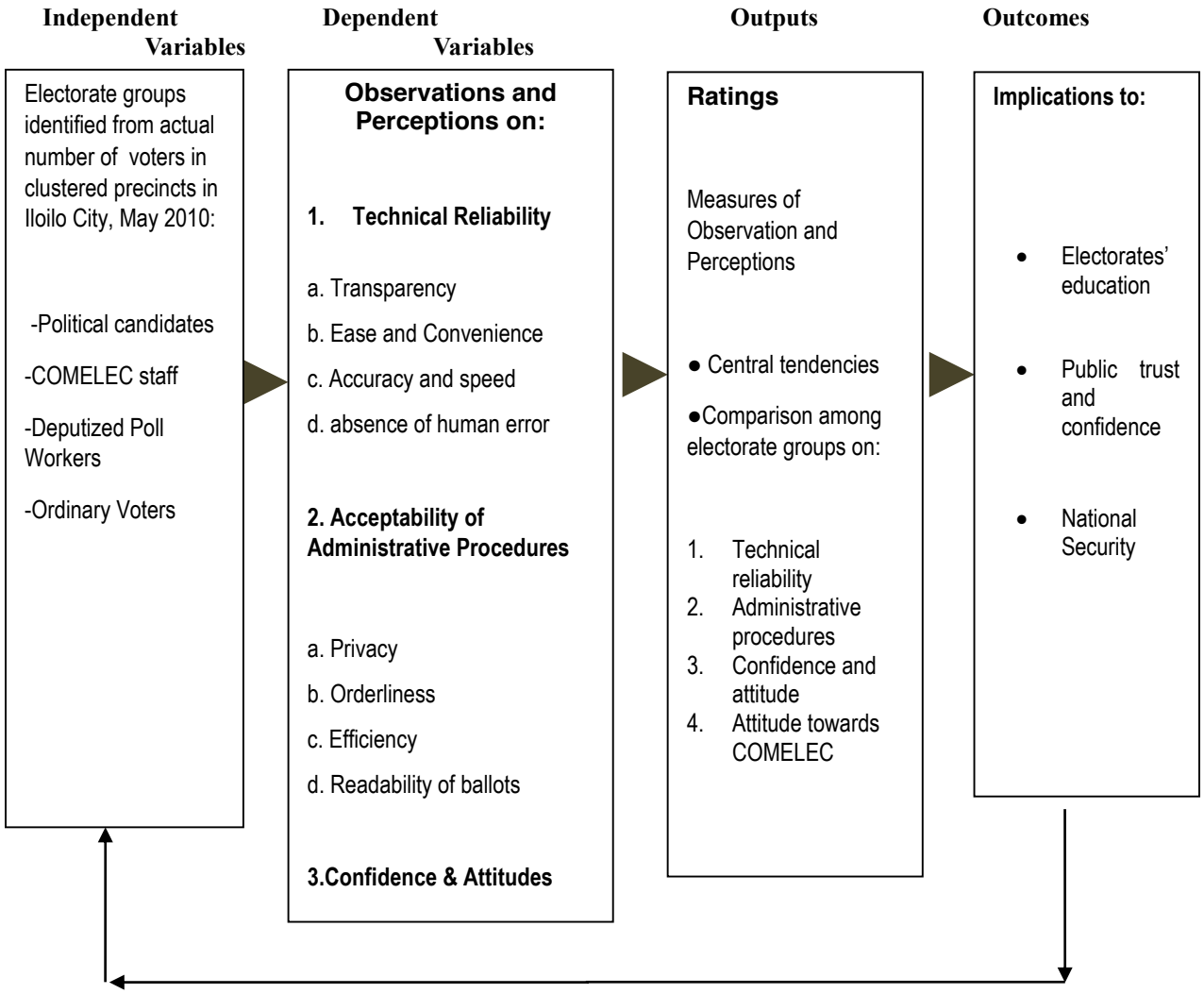

Figure 2. Conceptual Framework for the Study

- The schematic diagram shows an *Inputs-Process-Output-Outcomes* approach in undertaking the study. The arrows indicate the relationship of the variables and the movement of research activities. The Inputs provide the source and structure for organizing data into the given sets of constructs, (i.e., technical reliability, acceptability of administrative procedures, confidence and attitudes towards automated elections, and attitude towards COMELEC). The data are processed to derive measures of central tendencies for groups, and comparisons to see differences among groups. Finally, implications are derived.

HYPOTHESES

It was hypothesized that significant differences do not exist among groups on their observations and perceptions on the following aspects of the May 2010 automated election:

- the technical reliability.
- administrative procedures.
- confidence and attitudes.
- attitudes towards the COMELEC.

DEFINITION OF TERMS

Automated Election is a system using appropriate technology which has been demonstrated in the voting, counting, consolidating, canvassing and transmission of election results, and other electoral processes. (Sec. 2.a. of R. A. 8436, amended).

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Electorate group refer to categorization of qualified and officially registered voters who actually voted on May 10, 2010, grouped as:

- Ordinary voters, referring to registered voters with no specific designations
- Political candidates, referring to registered voters who sought local elective positions in Iloilo City
- Deputized poll workers , referring to individuals mostly public school teachers who served as operators of the counting machine, inspectors, checkers, and supervisors of the polling, reporting the results and other related duties.
- COMELEC staff, referring to the employees of the Commission on Election (COMELEC), responsible for the conduct of the May 10, 2010 elections in Iloilo City.

Election dysfunction refers to electoral frauds and malpractice which primarily affect the system and procedures, and results of the elections.

Marginalizing dysfunctions in elections means reducing fraud / malpractices during elections.

Observations and perceptions are operationally defined as ratings ranging from *none, slight, moderate and high* on the four aspects of automated elections, (i.e., the technical reliability, administrative procedures, confidence and attitudes of voters, towards automated election processes, and attitudes towards the COMELEC.

RESEARCH METHODOLOGY

Research Design. This is a descriptive research using quantitative and qualitative techniques. It describes and explores the observations and perceptions of electorate groups consisting of political candidates, deputized poll workers, and COMELEC staff and ordinary voters during the May 2010 automated election. It describes observations and perceptions of voters towards automated elections, from which conclusions on the marginalization of dysfunction in elections were inferred, and implications to social acceptability, drawn.

Sampling Procedure. A total of 193,153 registered voters who voted during the 2010 May Elections using 344 PCOS machines, was reported in the Iloilo City Certificate of Canvass for Local and National Elections. (COMELEC, 2010). Precincts located in the 180 barangays of Iloilo City were clustered into 344 according to the distribution of PCOS machines.

To derive an unbiased estimate of samples, probability sampling was applied using Slovin's formula. The formula allowed the researcher to sample the population with a degree of accuracy and assured reasonable results with 0.05 margin of error. From the total number of 344 clusters, the sample of 185 clustered precincts was derived. It yielded a total of 104,176 voters. To figure out the sample size for voters, Slovin's formula was again applied for each cluster, resulting in a sample size of 703 voters who were identified as respondents.

Survey instrument. The survey questionnaire, formulated on the basis of four constructs defining observations and perceptions on automated election, was a Likert type scale reflecting degrees of agreement to statements regarding each aspect, in a four point scale. A scale value of 4 indicated **High** manifestation, and 1, **No** manifestation of the characteristic aspect. Reliability of the tool was established through pilot testing involving 20 participants who were voters, teachers, and IT specialists convened from other municipalities. Computation for internal consistency of the instrument, yielded a Cronbach $\alpha = 0.956$.

Data Collection. A group of field researchers were employed to administer / interview questionnaires to respondents. A total of 703 questionnaires were fielded. Only 664 were retrieved. Interviews were supplemented by a focus group discussion.

Data Analysis Tools. Analysis of data involved three dimensions: First, determining the group mean ratings on individual indicators, and then determining the composite group ratings for each construct. Second, a comparison of the mean ratings among groups to determine significant differences using one-way ANOVA (F-test) at 95% level of significance. Then, Sheffe's test was also applied to further indicate differentiation among groups. Results provided the basis for accepting or rejecting the null hypotheses. Third, interview data were grouped according to meaning and integrated with quantitative results.

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FINDINGS AND DISCUSSIONS

This study was conducted in Iloilo City in the Province of Iloilo, on July 16 to August 21,2012. Six hundred sixty four (664) voters participated as respondents composed of 399 or 60.0% ordinary voters, 221 or 33.3% deputized poll workers, 29 or 4.4% political candidates and 16 or 2.3% election staff from the Commission on Election (COMELEC). Table1. presents a profile of the respondents. It should be noted that 68% of the respondents were female voters.

Table 1. Profile of the Respondents

Characteristic		F (N=664)	%
Sex	Male	210	31.6
	Female	454	68.4
Age	66-81	16	2.4
	50-65	147	22.1
	34-49	301	45.3
	17-33	200	30.1
Educational attainment	Elementary Level	3	0.5
	High School Level	32	4.8
	High School Graduate	22	3.3
	College Level	113	17.0
	College Graduate	386	58.1
	Post Baccalaureate Degree	84	12.9
	Others	23	3.6
Group Distribution	Political candidates	29	4.4
	Election Staff	15	2.3
	Deputized Poll Workers	221	33.3
	Voters	399	60.0

A. Observations and Perceptions On Technical Reliability.

Table 2. presents the mean rating of the electorate groups on the four constructs of technical reliability namely, transparency, ease and convenience, accuracy and speed, and absence of human error.

Transparency. The four groups of electorates rated transparency as "High" with the deputized poll workers giving the highest mean rating (M=3.82), followed by the political candidates (M = 3.70), the election staff (M = 3.67) and the voters (M = 3.45). One-way ANOVA showed significant differences in the ratings of the four groups ($F = 33.75$, $p = .000 < .05$). Scheffe's test revealed comparable ratings on transparency by deputized poll workers, political candidates, and election staff. The ratings were lowest among the ordinary voters.

Ease and convenience. All the four groups of electorates rated ease and convenience as "High", with ratings of deputized poll workers (M = 3.60); election staff, (M = 3.49); political candidates, (M = 3.39); and voters, (M = 3.33). One-way ANOVA showed significant differences among the four electorate groups ($F = 12.09$; $p = .000 < .05$). Significantly the highest mean rating was given by the deputized poll workers and lowest by the voters as indicated by results of the Scheffe's Test.

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Table 2. Mean Ratings On Technical Reliability

Electorate Groups	Constructs of Technical Reliability								Composite rating on Technical Reliability	
	Transparency		Ease and Convenience		Accuracy and Speed		Absence of Human Error			
	Mean	Des-crip-tion	Mean	Des-crip-tion	Mean	Des-crip-tion	Mean	Des-crip-tion	Mean	Des-crip-tion
Political candidates	3.70[a]	High	3.39[ab]	High	3.17[c]	Mode-rate	3.20[bc]	Mode-rate	3.36[bc]	High
Election staff	3.67[a]	High	3.49[ab]	High	3.46[ab]	High	3.40[ab]	High	3.50[ab]	High
Deputized Poll Workers	3.82[a]	High	3.60[a]	High	3.52[a]	High	3.46[a]	High	3.60[a]	High
Voters	3.45[b]	High	3.33[b]	High	3.24[bc]	Moder ate	3.11[c]	Mode-rate	3.28[c]	High
Statistical Results	F=33.75 p=.000<.05 significant		F=12.69 p=.000<.05 significant		F=14.74 p=.000<.05 significant		F=20.73 p=.000<.05 significant		F=28.42 p=.000<.05 significant	

Rating Scale

[ab]treatment means followed by similar letter superscripts are not significantly different

Scale Range	Description
3.26 – 4.00	High
2.51 – 3.25	Moderate
1.76 – 2.50	Slight
1.00 – 1.75	None

Accuracy and speed. The data in Table 2 also shows that accuracy and speed aspect of automated election was rated "High" by deputized poll workers (M-3.52) and the election staff, (M=3.46). The ordinary voters and the political candidates groups rated "Moderate" (M=3.24) and (M=3.17), respectively . One–way ANOVA revealed significant differences among the four electorate groups (F=14.74;p=.000<.05). Scheffe's test showed comparable ratings of the deputized poll workers and the election staff, both of which were significantly higher than those of the ordinary voters and the political candidates.

Absence of human error. The deputized poll workers and election staff rated absence of human error as "High" (M=3.46) and (M=3.40), respectively. On the other hand the political candidates and voters rated absence of human error as "Moderate", (M= 3.20), and (M=3.11), respectively. One-way ANOVA of the mean ratings revealed significant differences among groups (F=20.73;p=.000<.05). Scheffe's test showed comparable results for poll workers and election staff, significantly higher than those of the political candidates and the voters, indicating that those who were responsible for managing and conducting the automated elections, considered a low human error in the conduct of automated election.

Analysis and Interpretation of Composite Ratings on Technical Reliability.

Combining the aspects of transparency, ease and convenience, accuracy and speed and absence of human error yielded a composite "High" rating for technical reliability of the election automation for each of the four electorate groups: deputized poll workers (M=3.60) , followed by the election staff (M=3.50), political candidates (M= 3.36), and for the voters (M=3.28). One-way ANOVA of these values showed significant differences (F=28.42; p=.000<.05). Results on deputized workers having highest ratings on technical reliability can be explained by the fact that majority of the deputized poll worker were teachers, who had been were adequately trained on the automation of process.

In sum, findings on the technical reliability was rated as "High" by all four types of electorates. Since statistically, there were significant differences in their ratings, the hypothesis that there are no significant differences among groups on their observations and perceptions on the technical reliability of the May 2010 automated election, is rejected.

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B. Observations and Perceptions on Administrative Procedures.

Table 3 presents the mean ratings of the four groups of electorates as to the degree to which administrative procedures were observed.

Privacy. All four electorate groups rated privacy of administrative procedures as "Moderate". The mean rating was highest for the deputized poll workers (M=3.01) and lowest among the political candidates (M=2.84). One-way ANOVA revealed significant differences (F=21.01; p=.000<.05). Further, Scheffe's test showed comparable mean ratings of the deputized poll workers and the election staff which in turn were significantly higher than thethose of the political candidates and the voters. The "Moderate" ratings on privacy was expressed by one interviewee whose suggestion was "to lessen the voters per cluster or add more counting machines.

Orderliness. The four electorate groups rated the orderliness of automated election as "Moderate, with the deputized poll workers giving the highest rating (M= 3.13); the political candidates (M=3.06); the ordinary voters, (M=3.00); and the election staff, (M=2.95). One-way ANOVA showed that mean ratings significantly differed among the four groups (F=4.92; p=.002<.05), but post hoc analysis failed to detect significant differences. Interviews reveal suggestions to "organize the flow of the voting process, and provide more chairs for voters".

Table 3. **Mean Ratings on Administrative Procedures**

Electorate Groups	Constructs of Administrative Procedures								Composite Ratings on Administrative Procedures	
	Privacy		Orderliness		Efficiency		Readability of Ballots			
	Mean	Des-crip-tion	Mean	Des-crip-tion	Mean	Des-crip-tion	Mean	Des-crip-tion	Mean	Des-crip-tion
Political candidates	**2.84^{ab}**	Mode-rate	**3.06**	Mode-rate	**2.75^{b}**	Mode-rate	**3.08^{b}**	Mode-rate	**2.93^{b}**	Mode-rate
Election staff	**3.00^{a}**	Mode-rate	**2.95**	Mode-rate	**2.63^{b}**	Mode-rate	**2.98^{b}**	Mode-rate	**2.89^{b}**	Mode-rate
Deputized Poll Workers	**3.01^{a}**	Mode-rate	**3.13**	Mode-rate	**3.10^{a}**	Mode-rate	**3.35^{a}**	High	**3.15^{a}**	Mode-rate
Voters	**2.73^{b}**	Mode-rate	**3.00**	Mode-rate	**2.80^{b}**	Mode-rate	**3.03^{b}**	Mode-rate	**2.89^{b}**	Mode-rate
Statistical Results	F=21.01 p=.000<.05 significant		F=4.92 p=.002<.05 significant		F=25.875 p=.000<.05 significant		F=23.07 p=.000<.05 significant		F=28.42 p=.000<.05 significant	

Rating Scale

^{ab}treatment means followed by similar letter superscripts are not significantly different

Scale Range	Description
3.26 – 4.00	High
2.51 – 3.25	Moderate
1.76 – 2.50	Slight
1.00 – 1.75	None

Efficiency. The extent to which the voting process was conducted with less time and effort was rated by the four groups of electorates as "Moderate". The highest rating given by deputized poll workers, (M= 3.10); then by the ordinary voters (M=2.80); the political candidates, (M=2.75); and the election staff, (M=2.63). One-way ANOVA revealed significant differences (F=25.88; p=.000<.05) among the four groups. Scheffe's test revealed that the rating of the deputized poll workers was significantly the highest compared to the others.

Readability of Ballots. The ease in which text in the ballots could be read and understood by the electorates was another construct used in determining the level of administrative procedure. The deputized poll workers rated readability of ballots as "High" (M=3.35); political candidates rated readability as "Moderate", (M=2.08) together with ordinary voters (M=3.03) and the election staff (M=2.98). One-way ANOVA indicated significant differences among the four groups (F=23.07; p=.000<.05). Scheffe's test indicated that the rating on the readability of ballots

by the deputized poll workers was significantly the highest, while the other groups were statistically comparable. Suggestions to "improve the font for the name of the candidates" were expressed in the interview.

Interpretation of Composite Ratings on Administrative Procedures

Composite ratings on the administrative procedures during the 2010 automated election by the four groups of electorates were "Moderate". However, one-way ANOVA of the mean ratings of the four electorate groups statistically differed ($F=28.42$; $p=.000<.05$). This means that the four electorate groups differed in their views regarding privacy, orderliness, efficiency and readability of ballots during the automated elections. Since these results indicate statistically significant differences among group ratings, the hypothesis that there are no significant differences among groups on their observations and perceptions on administrative procedures of the May 2010 automated election, is rejected.

C. Observations and Perceptions On Confidence and Attitudes Toward Automated Election

Table 4 presents the ratings on confidence and attitudes toward automated elections, indicators of which are confidence about accurate results, and attitude towards automated election, i.e., preference and trust on automated election process.

Confidence About Accurate Results. The deputized poll workers rated confidence about accurate results as "High" ($M=3.33$). However, ratings of the three other electorate groups were "Moderate", with ordinary voters, ($M=3.12$); election staff, ($M=3.12$); and the political candidates, ($M=3.04$). One-way ANOVA revealed significant differences among the four groups ($F=7.946$, $p=.000<.05$). Scheffe's test indicated that the deputized poll workers' mean rating was significantly higher than the other electorates particularly the ordinary voters.

Attitude Towards Automated Election. The electorates' attitude towards automated election was generated using two constructs, preference and trust.

Preference for Automated Elections. Among the four electorate groups, the deputized poll worker rated preference for automated election as "High" ($M=3.42$. On the other hand, the voters ($M=3.18$) and the political candidate ($M=3.14$) rated "Moderate", while the election staff rated "Slight" preference ($M=2.32$) for automated election. Using one-way ANOVA, these mean ratings revealed highly significant differences ($F=9.921$; $p=000<.05$) among the four groups of electorates, which indicate that the different groups had different levels of preference for automated election, albeit moderate.

Trust for automated election. The ratings of the deputized poll workers is that trust for automated election was "High" ($M=3.32$), with similar results for election staff ($M=3.27$). In contrast, the political candidates and voters rated trust for automated election as "Moderate" ($M=3.19$) and ($M=3.13$), respectively. These mean ratings differed significantly ($F=5.25$, $p=.001<.05$) among the four electorate groups. However, Scheffe's test was not able to discriminate the significant difference between pairs of electorate groups taken at a time.

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Table 4. Mean Ratings On Confidence and Attitudes Toward Automated Election

Electorate Groups	Constructs of Confidence and Attitudes Toward Automated Election								Composite Rating on Confidence and Attitudes Toward Automated Election	
	Confidence About Accurate Results		Preference		Trust		Attitudes Toward Automated Election			
	Mean	Des-crip-tion	Mean	Des-crip-tion	Mean	Des-crip-tion	Mean	Des-crip-tion	Mean	Des-crip-tion
Political candidates	3.04[ab]	Mode-rate	3.14[b]	Mode-rate	3.19	Mode-rate	3.16	Mode-rate	3.10	Mode-rate
Election staff	3.12[ab]	Mode-rate	2.32[ab]	Slight	3.27	High	3.29	High	3.21	Mode-rate
Deputized Poll Workers	3.33[a]	High	3.42[a]	High	3.32	High	3.37	High	3.35	High
Voters	3.12[b]	Mode-rate	3.18[ab]	Mode-rate	3.13	Mode-rate	3.15	Mode-rate	3.14	Mode-rate
Statistical Results	F=7.946 p=.000<.05 significant		F=9.921 p=.000<.05 significant		F=5.25 p=.001<.05 significant		F=8.40 p=.000<.05 significant		F=9.134 p=.000<.05 significant	

Rating Scale

Scale Range	Description
3.26 – 4.00	High
2.51 – 3.25	Moderate
1.76 – 2.50	Slight
1.00 – 1.75	None

[ab]treatment means followed by similar letter superscripts are not significantly different

Composite results for attitude towards automated election. The attitude towards automated election combined resulted as "High" by the deputized poll workers (M=3.37) and the election staff (M=3.29). On the other hand, both groups, political candidates and voters rated attitude towards automated election , "Moderate" with (M=3.16) and (M=3.15). Using one-way ANOVA revealed significant differences (F=8.40, p=.000<.05) among the four electorate groups. However, Scheffe's test failed to identify which among the four groups had significantly highest or lowest mean ratings.

Interpretation of Composite Ratings on Confidence and Attitude Towards Automated Election

The survey on the attitudes and confidence toward automated election (defined as confidence about accurate results, preference and trust) shows the ratings of "Moderate" among candidates and voters, and "High" among the election staff and deputized poll voters. This means that the electorate groups had different attitudes of confidence in the accuracy of results, and preference for, and trust in, automated results. Further, results indicated statistically significant differences among the electorate groups. Thus, the hypothesis that there are no significant differences among groups on their observations and perceptions on confidence and attitudes towards automated election, is rejected.

D. Observations and Perceptions on Attitude Towards the Commission on Election (COMELEC) as an Institution

The attitude of the electorates towards COMELEC as an institution was defined by two constructs dependability and trustworthiness. Table 5 presents the data.

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Table 5. Ratings on Attitude Towards the COMELEC Administering the Election.

Electorate Groups	Constructs of Attitude Towards the COMELEC						Composite Rating on Attitude Towards COMELEC	
	Dependability		Trustworthiness		Independence of decision			
	Mean	Descrip-tion	Mean	Descrip-tion	Mean	Descrip-tion	Mean	Descrip-tion
Political candidates	3.14[b]	Moderate	3.11[b]	Moderate	3.02[b]	Moderate	3.09[b]	Moderate
Election staff	3.57[a]	High	3.58[a]	High	3.49[a]	High	3.54[a]	High
Deputized Poll Workers	3.31[b]	High	3.30[b]	High	3.26[ab]	High	3.29[b]	High
Voters	3.17[b]	Moderate	3.12[b]	Moderate	3.07[b]	Moderate	3.12[b]	Moderate
Statistical Results	F=5.84 p=.000<.05 significant		F=10.40 p=.000<.05 significant		F=9.05 p=.000<.05 significant		F=10.19 p=.000<.05 significant	

Rating Scale

Scale Range	Description
3.26 – 4.00	High
2.51 – 3.25	Moderate
1.76 – 2.50	Slight
1.00 – 1.75	None

[ab]treatment means followed by similar letter superscripts are not significantly different

Dependability. The election staff perceived that the COMELEC, as an institution, is highly dependable (M=3.57) which was also similar to the rating of deputized poll workers (M=3.31). Voters (M=3.17) and political candidates (M=3.14) rated the COMELEC as "Moderate" in dependability. One-way ANOVA indicated that the mean ratings were significantly different among the four electorate groups (F=5.84; p=.000<.05) . Further, Scheffe's test revealed ratings of the election staff on dependability of COMELEC was significantly the highest, while those of the three other electorate groups were comparable and significantly lower.

Trustworthiness. The election staff rated the trustworthiness of COMELEC as "High" (M=3.58) with deputized poll workers' similar rating (M=3.30). The voters and the political candidates rated the trustworthiness of the COMELEC as "Moderate", with (M= 3.12) and (M=3.11), respectively. Using one-way ANOVA, these mean ratings though, significantly differed among the four electorate groups (F=10.40; p= 000<.05) with the election staff giving significantly higher mean rating compared with the three other electorate groups.

Independence of Decision. The data in Table 5 also show that the election staff rated the COMELEC "High" in independence of decision (M= 3.49), together with the deputized poll workers (M=3.26) , whereas voters and political candidates rated the COMELEC as "Moderate", (M=3.07) and (M=3.02), respectively. One-way ANOVA of the mean ratings among the four groups of electorates show significant differences (F=9.05; p=.000<.05). Multiple comparisons and contrast analysis using the Scheffe's test shows that the mean ratings of election staff and deputized poll workers were significantly higher than the mean ratings of both the voters and political candidates.

Analysis and Interpretation of Composite Ratings on Attitude Towards COMELEC

The electorates' composite rating on attitude (defined by three constructs of dependability, trustworthiness and independence) of COMELEC as an institution is "High" by the election staff (M=3.54) and the deputized poll workers (M=3.29). Meanwhile, the ratings of voters and political candidates' are "Moderate" (M=3.12) and (M=3.09) respectively. One-way ANOVA revealed significant differences among electorate groups (F=10.19; p=.000<.05). Multiple comparisons using Scheffe's test indicated that the ratings of the election staff on attitude toward COMELEC was significantly higher than the rest of the electorate groups.

In sum, the survey on the perceptions and confidence towards the COMELEC in administering the elections indicated that the election staff and deputized poll workers considered the COMELEC as highly dependable, trustworthy and independent in its decisions, but moderately, among political candidates and voters, which are

consistent with the suggestions to the COMELEC to be "Impartial / credible / independent /apolitical".

Since results indicated statistically significant differences among the group ratings, the hypothesis that there are no significant differences among groups on their perceptions and attitudes towards the COMELEC to administer elections, is rejected.

SUMMARY

This study sought to explore the observations and perceptions of four groups of voters on the automated elections in the Philippines held for the first time on May 10, 2010, and to determine implications of findings to marginalizing election dysfunctions.

Six hundred sixty four (664) from 185 precincts in Iloilo City in the Western Visayas Region, Philippines served as respondents, representing four groups: deputized poll workers, political candidates, electoral staff, and voters. The survey covered four areas related to automation: (1) technical reliability (2) administrative procedures (3) attitudes towards automated election and (4) attitude towards the Commission on Elections. The results are summarized below:

- The four groups of electorates rated technical reliability (defined by constructs transparency, ease and confidence, accuracy and speed and absence of human error) as "High".
- The four (4) groups of electorates rated administrative procedures (defined as privacy, orderliness, efficiency, readability of ballots), as 'Moderate" .
- Two groups, the candidates and the voters rated attitudes and confidence toward automated election (defined as confidence about accurate results, preference and trust) as "Moderate" , while the two other groups, the election staff and deputized poll voters, rated these features "High'.
- Two groups, the election staff and deputized poll workers rated attitude towards the COMELEC elections (defined as dependability, trustworthiness, and independence of decision) as "High", while the two other groups, the political candidates and the ordinary voters rated these aspect as "Moderate".
- Hypotheses rejected. The hypotheses that significant differences do not exist among groups on their observations and perceptions are rejected, since statistical analysis indicated significant differences on the ratings of the electorate groups (political candidates, deputized poll workers, and COMELEC staff, and ordinary voters) on the following aspects of automated elections:
    - technical reliability of the May 2010 automated election.
    - administrative procedures of the May 2010 automated election
    - confidence and attitudes towards automated election.
    - attitudes towards the COMELEC to administer elections in the country

CONCLUSIONS

Among the four groups, the deputized poll workers had the highest ratings for all the aspects of automated election, having "High" ratings on the technical reliability, confidence and attitudes toward automated elections, and attitude towards COMELEC, and "Moderate" administrative procedures, demonstrating acceptability of the new mode of elections. Three important conditions should be noted: 1) Prior to the elections, the deputized poll workers had been given orientation and training on the different aspects and procedures of automated election. 2) They directly handled the operation of the counting machine in the precinct level. 3) They gained total experience on the new system of elections, and saw the difference between the old manual practice as against automated elections. These three conditions fit the assimilation / accommodation processes in the Adaptation / Equilibration model, providing an explanation of what underlying processes were at play, and rendering a framework for educational / training interventions.

Not all of electorate groups had similar understanding of the different aspects automated election. The ordinary voters who were the biggest in number rated all the aspects of automated election as "Moderate", arguably, because of lack of a clear understanding how it works, and projecting a kind of uncertainty whether it works. They represent the electorate who still need convincing have to be directed towards understanding the efficiency of technology in addressing the dysfunctions of elections. Time allows adjustment though, and later, accommodation of the new

practice of elections.

IMPLICATIONS

The Philippines is still a toddler in the practice of automated election and so emerging challenges are inevitable. Implications to education and training are underscored, not only for IT specialists and deputized poll worker but the general electorate, on the risks and benefits of automated election, on the processes and guidelines, and responsibilities of the voter. Existing laws may need to be modified or strengthened and additional laws may be of critical necessity to eventually legitimize decisions that will secure the suffrage of the people and perpetuate the ideals of democracy and sustain national security. Alvarez and Hall (2004) wrote that since trust in the electoral process is the nexus between the electorate and the elected, it is important that there is a high level of trust in the election process which is the ultimate source of the legitimacy of the office holders.

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Transformatıon Of Instructıonal And Learnıng Paradıgm In Dıgıtal Age: Socıal Networkıng Practıces And Academıc Expectatıons Of Hıgher Educatıon Students In Turkey

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ABSTRACT
New technologies have transformed profoundly the way in which people live, communicate and work. One of the main areas which was affected by the development of new media technologies is higher education. Academic institutions of today's knowledge societies are embracing some transformational benefits like distance education, using podcasts and blogging practices which put education within reach of many more individuals around the world. The new technology savvy digital-age generation in higher education today, are living online with their different mobile tools most of the day and use the social networking sites effectively. Accordingly instructional paradigms are expected to shift from one way lecturing to two way interactive learning process which requires using new media tools and networks. There are studies proposing the use of social media and blogging as supportive and effective educational learning in the digital era.
This study tries to determine how social media is being used by the communication faculty students in Turkey as a daily practice and for academic purposes to support educational and cooperative learning. The main reason of choosing communication students is because there are courses about new media and new media literacy at these faculties. Therefore it is also aimed to find out the new media skills and habits of both scholars and students in this field. The study was designed as an exploratory online survey and shared in student facebook groups of communication faculties between 1-30 April 2015 to adress the questions which were central for the perception, practice, expectations of the students' social media use and the way of academic interactions with their scholars on social media. The paper discusses the instructional and learning benefits of social media use for academic purposes.

Key Words: social media, higher education, digital-age students, interactive learning

INTRODUCTION
Higher education practices have evolved from blackboard mediated to internet mediated education with the emergence of media richness during the last century. Information and communication technology (ICT) is progressively getting more prevalent and used in educational process as well as in other organizational sectors (Keller & Cernerud, 2002).
While the Internet has been praised as an instructional tool, it is also a strong contrivance for transforming the teaching-learning process in new and powerful ways. Nations across the world have found this tool most useful and most of them have collectively moved the power of the Internet for learning from promise to practice (Web-based Education Commission, 2000).
Internet based tools and methods are being expanded to support the educational system, both campus- and distance-based since the 1980s. A large number of studies acknowledge computer-supported collaborative learning (CSCL) as a vital part of effective learning, makes learners able to communicate with each other through social media (Weinberger & Fischer, 2006).
Over the years it has become increasingly important for academic lecturers working in higher education to explore the exciting opportunities new technologies bring to institutions, educators and students. Along with the popularity of personal use, social media is becoming a vital part of academic practice. The literature and a large number of studies carried out in universities all over the World demonstrate advantages and challenges associated with social networking.
Using social media technologies has been considered as offering significant advantages in higher education as to support traditional teaching methods, enhance the learning environment and build a new type of engagement among educators and students in all levels of education. It is becoming a viable supplement to the traditional learning environment (Ebner, Lienhardt, Rohs, & Meyer, 2010).

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To this end, this study targets to portray the place of social media in higher education students and their acaemic lecturers by investigating the communication faculty students to find out their social media use practices, perception and opinions of integrating social media into their educational learning with collaboration the academic lecturers and also their way of online interaction with them.

USING SOCIAL MEDIA IN HIGHER EDUCATION

Social media have rapidly become a part of many people's everyday lives, but especially for the generations who have grown up with technology. A number of authors illustrate that the young generation are frequently using social media technologies for communication and collaboration (Smith & Curtin,1988). In the last quarter-century, as Andone et al. (2006a) state, virtually digitalizing of all life aspects is the most significant impact on learners' life. In this respect, Smith and Curtin (1998) discuss that ICT technologies support education by assisting young people to live in an information-rich technology world.

Poelhuber & Anderson (2011) argue the effective use of social media as it offers new educational affordances that can be exploited in formal learning besides its considered primary use of informal and recreational use. Formerly, Richardson (2006) pointed out the increase of educational use of wikis and blogs as well.

Social media plays a crucial role in the lives of networked teens. Although the specific technologies change, they collectively provide teens with a space to hang out and connect with friends. And because of a variety of social and cultural factors, social media has become an important public space where teens can gather and socialize broadly with peers in an informal way. Teens are looking for a place of their own to make sense of the world beyond their bedrooms. Social media has enabled them to participate in and help create what Boyd call (2014; 5) "networked publics".

The generation born after 1980, mainly the current higher education students, is an even more digital age group (Andone et al., 2006b). To this generation, the digital world is more permeating than for other generations and technology is a world that they know and live in.

It has been claimed by Andone et al. (2006a) that digital age students who grown up with ICT, have special characteristics and different learning habits that lead them to use technology differently. In accordance, Prenksy (2001) notes this group as a generation with different technology skills and completely new set of cognitive capabilities.

Kaplan and Haenlein, (2010) also note that the younger generation has considerable technical knowledge and tendency to engage online technology use, which in essence makes media usage different from other eras.

Students use social networking sites not only for leisure and personal socialization but also as a platform for more meaningful and serious deliberations, and students are using social networking for making friends, sharing links, online learning, finding jobs to accomplish their economic, educational, political and social being. Researchers have fast realize the need to incorporate this into the educational faculties, as a resource to support the educational communications between student and faculties, even though institutions of higher learning have tried preventing students from accessing technologies which is of less important to their academic benefit.

When we review the literatüre it can be seen that there are quite a lot of studies suggesting use of social media which is useful and important at higher education when it is integrated into learning process, where we can read the reports as social media holds promise for academia. Accordingly many researches acknowledge students'beliefs, perceptions and experiences with regard to social media technologies and their willingness to incorporate social media into their learning experiences. Using social media technologies in higher education support traditional teaching methods, enhance the learning environment and build a new type of engagement among educators and students in all levels of education. It is becoming a viable supplement to the traditional learning environment (Ebner, et al 2010; Poellhuber & Anderson 2011).

According to Aghaee (2010) most significant benefits gained by using social media for students are ; interactions with course participants and educators, having access to educators' shares (lecture notes, assignments, labs' information and instructions..) any time/anywhere, finding related documents through search engines or using online video-based resources, some versions of tutorial-videos/-clips which are helpful to understand the topic better, rather than reading the boks, time saving, convenience, being free or cheap, mass info-sharing, flexible, faster, regular updates and interaction, efficient since users have time to think and answer, independency.

OBJECTIVES OF THE STUDY & RESEARCH METHODOLObjectives of the Study and Research Methodology

The purpose of this study is to find out the university students' SNS practices as well as their interaction with lecturers, perceptions and opinions about adoption of SNSs as tools to enhance educational activities in higher education. One of the main objective of this research was to see the interest of the students to make effective use of social media in academic learning practices and interaction with lecturers.

Communication Faculty students in Turkey were choosen as sample for this research. Instead of random subject disciplines, this survey was conducted with communication faculty students to see the use of SNS practices in educationas there are courses like "new media" and "new media literacy" at these faculties.

The study was designed as an exploratory online survey including 21 questions in total and shared in student facebook groups of communication faculties in Turkey, between 1-30 April 2015. to adress the questions which were central for the perception, practice, expectations of the students' social media use and the way of academic interactions with their scholars on social media.

FINDINGS OF THE SURVEY

Survey included 21 questions beginning with demographic investigation. Included undergraduate and post graduate students of communication science faculties in Turkey. The basic departments of communcation faculties in Turkey are given as departmental question's choices which are ; Journalism, Public Relations, Advertising, Radio-TV-Cinema, Visual Communication, New Media, and also "other" choice" is included. Students were asked about the technological devices they own, ways of İnternet access and the time they're online daily, the SNSs they use and reasons of this, social media interactions with academic lecturers, their awareness, practices and opinion about using podcasts, wikis and blogs as an educational objectives besides their heavy use of SNSs like Facebook, Twitter, YouTube and Instagram.

Demographic Findings;

- The survey was completed by 324 students in total.
- Male students constituted 54,94 % of the sample respondents.
- % 68,21 of respondents aged between the group 21-25.
- % 44,75 have been using computer since 6-10 years while % 33 more than 10 years.
- % 83,64 undergraduate students.
- %73,15 are Public Relations & Publicity department students.
- Main devices students own personally are smart phones (91 %), then comes laptop (84 %). PC desktop is the less used computer technology among the participant students [Figure 1]. This result clearly indicate that the young adults are using mobile internet technologies which can facilitate their access to learning material contents and also provide interaction with lecturers, class mates anytime/anywhere.
- It is obvious that young adults are living online, as they reported of being online most of the day (62,65 %), and several times a day (33,64) which makes totally 96,29 %. [Figure 2]

Figure 1. Technological Devices Students Own

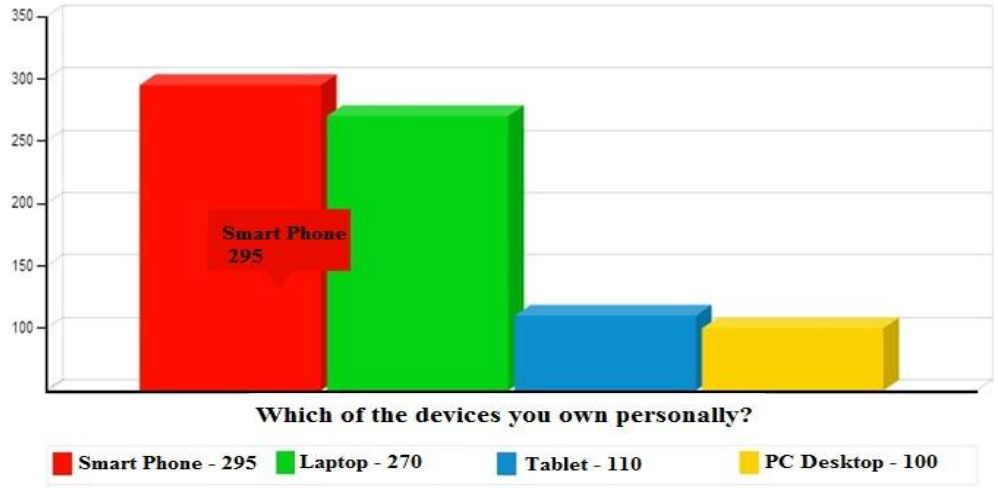
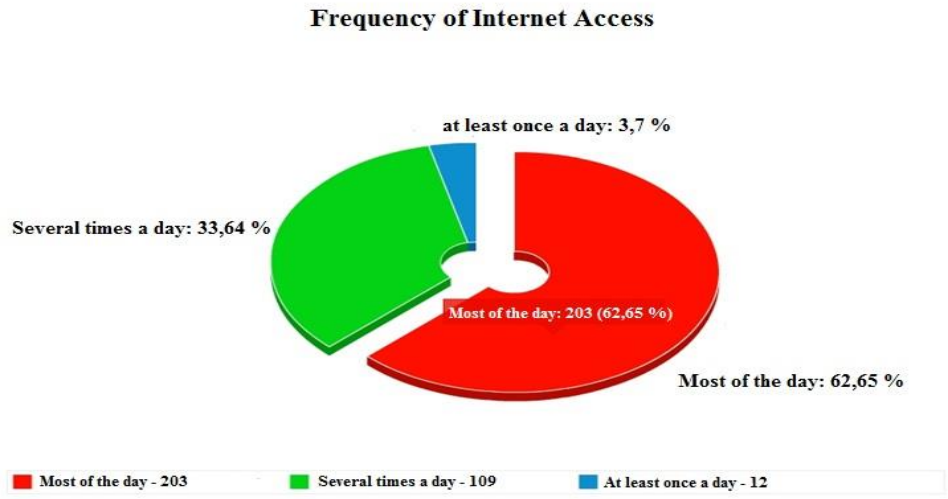


Figure 2. Frequency of Internet Access



- **The reasons of using social media [Figure 4]**
  - 84 % of students use social media to 'connect with friends/ to chat with them'
  - 77 % to follow agenda/news media,
  - 71 % to see shared course materials and to connect with class mates
  - 67 % follow common interest groups and pages
  - 67 % for video/photograph sharings
  - 42 % follow blogs and interact with them

Of the choices offered in the survey, by far the most commonly selected reason for social media usage was 'to connect with the friends/to chat with them' and than comes 'following agenda/news media' which can also be read as to keep up to date. The third most common reason for social media usage was 'to reach the university course materials which are shared in their group pages and still connecting with class mates. Those leading reasons of using social media for the students indicate the communication, interactivity and socialization function of social networking sites. Entertainment-based reasons are following the first three options.

- Students have interaction with instuctors predominantly on Facebook 89 %, then Twitter 45 %, Instagram 28 % and LinkedIn 15 %
- When it comes to using social media for teaching & learning purposes, students point Facebook (64 %) and Blogs (62 %). Then comes ,YouTube (48 %), Twitter (43 %).
- While Facebook is still the most used SNS (88 %) ,Youtube (78 %) and Instagram (77 %) are closely following Facebook. Twitter (70 %) ranked as the fourth SNS. [Figure 3]
- For İnternet access participants reported that they use their smart phones the most (75%). While mobile use for internet access is 94,75 % in total (including smart phone, laptop and tablet), Desktop PC remains only at 5,25 %
- 78 % students state that instructors use their class facebook page to share information about courses, lecture notes, assignments

In accordance with the theoretical frameworks, almost all students believe that social media should be used in educational learning.

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Figure 3. Social Networking Sites Students Use

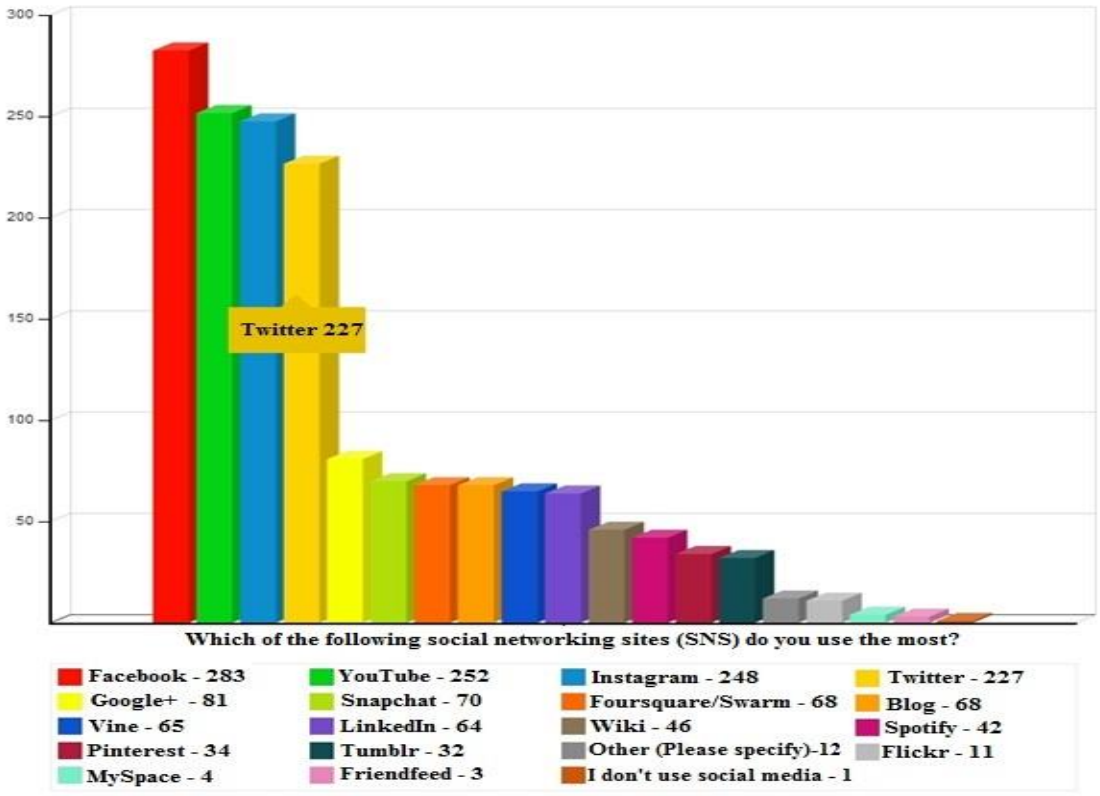

Figure 4. Reasons of Using SNSs

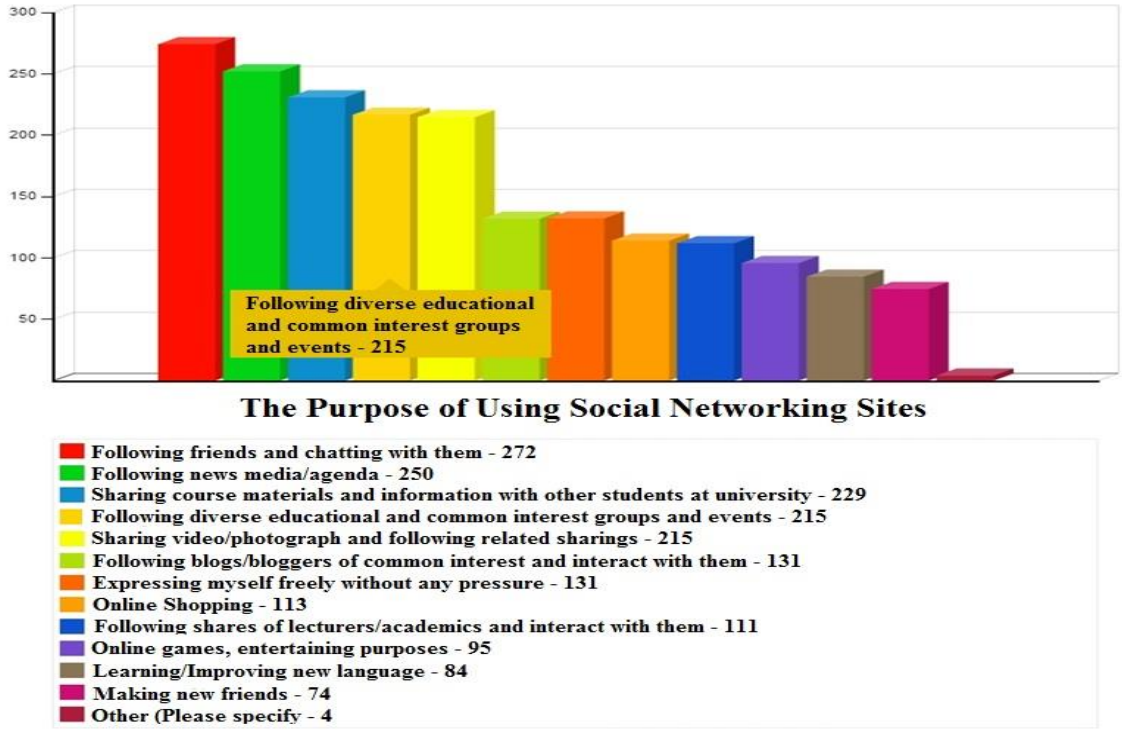

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Figure 5. Social Media Interaction with Lecturers

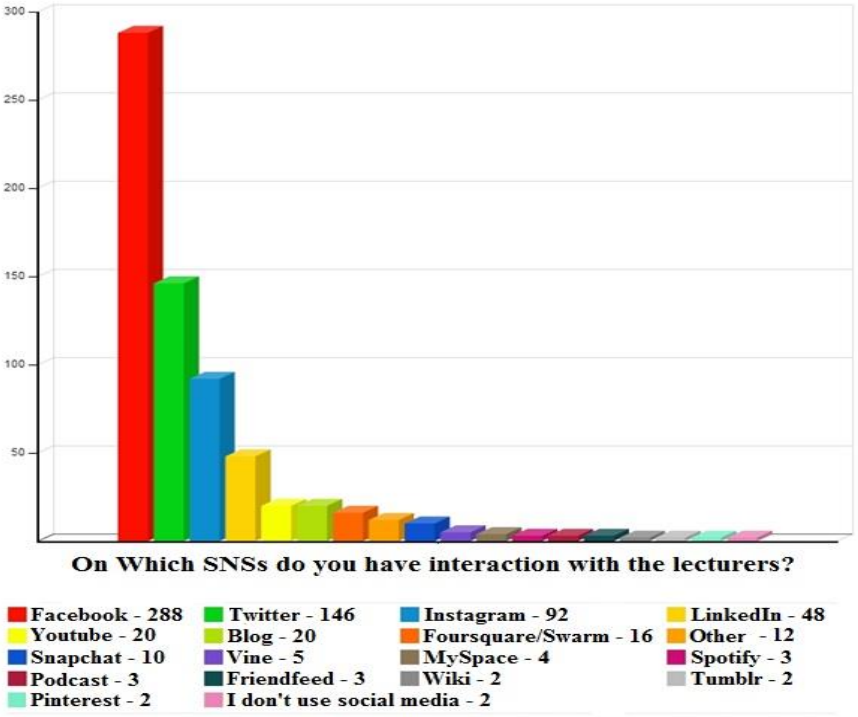

Figure 6. Opinions about Educational Supportive SNSs

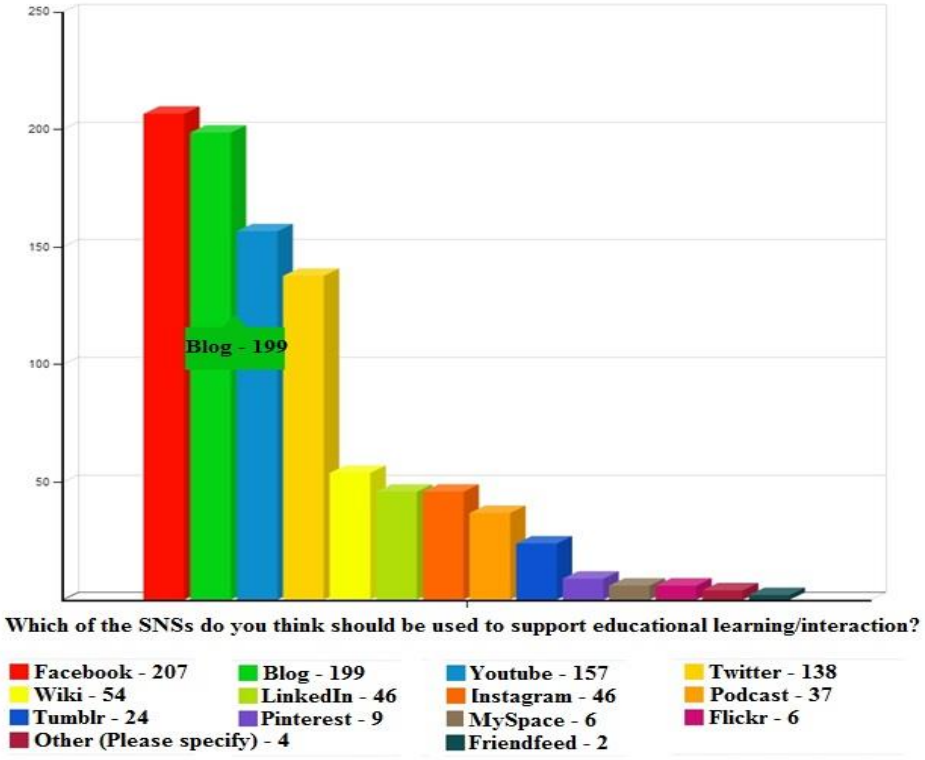

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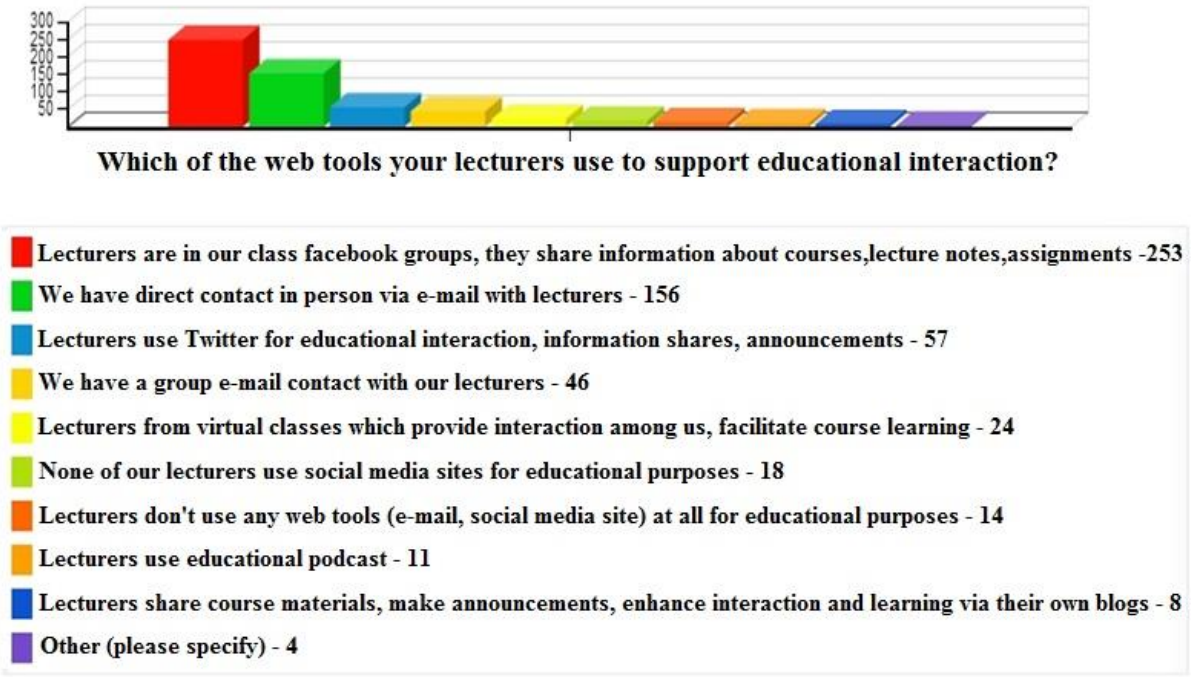
Figure 7. Web tools Lecturers Use for Educational Interaction



CONCLUSION

The results obtained from this study have shown that almost all the respondents of Communication Faculty students are using the social networking sites, they are living online with their mobile devices primarily smart phones.

Research also tells us that communication educators at universities in Turkey have not widely embraced social media for teaching purposes. They have contacts and interactions with their students overwhelmingly at Facebook,and they don't use podcasts, wikis, blogs as to enhance teaching and learning practices in higher education.

In conclusion, social media can be a complement tool to the traditional educational system in higher education. There are significant advantages to motivate academia to adopt using social media to reduce geographical dispersions, support studies, and to attract the online living students. The result of this study shows, almost all learners are frequent users of online technology and they all use social media in a similar way to interact with other engaged factors. Moreover, the usage of social media to support student' collaborative and cooperative learning is guided by the teaching strategies and other influential factors.

For long years traditional educational learning system has been usually experienced in a one-way communicative manner which can be considered as knowledge and information transfer with physical lectures. The appearance of internet based technologies and social media platforms today offer vast opportunities to academic teaching and learning processes. The main problem at his point is to convince academic educators and learners to adopt new ways of social media interactions to support educational learning. Because large numbers of researches about practices report that social media sites are valuable tools for teaching and collaborative learning.

Social media provides conversation which is core for education process and is distinguishable from many other Web tools especially because it provides a two-way dialogue and allows for real discussion. Not only SNSs like Facebook and Twitter, Blogs are also examples of getting into the conversation. Though they're not real-time, blogs provide a format for dialogue via comments. During the school year, the University of Texas hosted student blogs called "Longhorn Confidential" in which two students from each grade level blogged about their experiences at school. The public could respond to each post via comments, and often did. "It served as not only a story-telling format, but created dialogue as well," said Corley, the school's public affairs social media manager.

This survey is recommended to be repeated every year to see if the communication instuctors and students are expanding their use use of social media for educational purposes but also if they are also becoming more sophisticated in their use, or if their being back from full adoption remains the same.

Social media technologies can provide new opportunities to engage learners, and are discovering impactful strategies for using them in face-to-face, blended and online classrooms. To this end educators and students need motivation and a model to use social media platforms to render the education process more efficient. Web 2.0

technologies have opened doors to highly interactive online communication and opportunities for user-generated content across a number of types of media.

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Using Social Network Analysis For A Comparison Of Informal Learning In Three Asian-American Student Conferences

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ABSTRACT
This work deals with a comparative study of three Asian-American student conferences: Taiwan-America Student Conference (TASC), Japan-America Student Conference (JASC) and Korea-America Student Conference (KASC). It is based on the literature review about data visualization methods and the adoption of ad hoc Social Network Analysis (SNA) tools. It is geared to analyze available data about participant interactions and sub-group dynamics. Such data refer to a full-coverage observation period, that is 30 days before to 30 days after the conference application deadlines.

INTRODUCTION
Academic events aimed at students are generally geared to foster networking among young prospective professionals and to provide them with significant opportunities of personal growth. In particular, knowledge sharing among people having different cultures and background is one of the key and valuable goals of this kind of events, since it plays a key role in the development process of innovative solutions (Yusuf, 2009; de Castro, Rodrigues, Esteves and da Rosa Pires, 2000; Burton-Jones, 2001; Iammarino, 2005; Palmieri and Giglio, 2014).
Young participants aim to enrich their cultural and professional background in order to become more competitive in the eyes of the social community and the labor market (Di Pietro and Anoruo, 2006; Takeuchi, 2006).
Forasmuch as a number of data visualization methods exist in field literature – mainly due to the even bigger volume of data and information available in different contexts (North, 2001) –, the selection of the proper one takes on a strategic dimension. In fact, each technique may lead to adopt a specific perspective of analysis and, thus it may affect the whole research (Khan and Khan, 2001). Both results and quality of research are influenced by its own design and methodology. Therefore, field scholars keep on focusing on data visualization (Khan and Khan, 2001). Different approaches on data visualization may generate different analysis and interpretation. As regards this research work, designing the data visualization process, clustering data visualization methods, and integrating them with each other definitely represent some of the key factors affected by the selection of the proper data visualization method. In this context, research design and methodology address the data scientist's strategy (North, 2001; Ware, 2004; Spence, 2001).
The main aim of this paper is that of analyzing three student conferences by means of SNA-related data visualization techniques about the corresponding online social networks (OSNs) communities. This way it is possible to better understand network dynamics and user interactions – e. g. by predicting conference hot topics and communities of researchers with shared interests.
The second paragraph includes the literature review about data visualization. The third section deals with research methodology. In the second to last section, the main results are visualized. The final section ends with conclusions.

RESEARCH IN THE FIELD OF DATA VISUALIZATION METHODS
The aforementioned literature review is dealt with in the following.

THE SIX-STEP MODEL FOR DATA VISUALIZATION
In (Khan and Khan, 2001; Card, MacKinlay and Shneiderman, 1998), data visualization has the meaning of representing a given phenomenon by means of tools showing it according to the way it is visually perceived. Data visualization tools generally include computer-supported solutions and are geared to boost data scientist while analyzing datasets and enriching their knowledge background (Teyseyre and Campo, 2009; Khan and Khan, 2011). Indeed, graphical description of data ensures to easily understand phenomena and to capture more details and to better communicate research findings (Tufte, 1997). By the data scientist' perspective, it provides the opportunity to display, categorize, sort and disseminate results under multiple slants, thus making it easier to adjust them according to the application context at hand (Kowalski and Maybury, 2002; Butler, Almond, Bergeron, Brodlie and Haber, 1993).
In the field literature about the visualization process, a six-step model (Chittaro, 2006) is proposed. It is composed of the following steps:
1) The first step is about mapping and deals with encoding and rendering data in the proper way based on the

research requirements. It concerns with making data representation compliant with real-world features of the phenomenon at hand.
2) After the completion of data mapping, a further step is required. It is about selection and is performed by data scientists in order to distinguish worthy data from negligible ones.
3) Data should be presented to research stakeholders and disseminated during events devoted to the target audience. They should be conveyed in an intelligible way.
4) Nowadays users are even more interested in checking, examining and re-elaborating available data. Therefore, interactivity is a key feature of a well-defined data visualization process.
5) The so-called "human factor" is very relevant in terms of usability and accessibility, since considering special needs of specific users and providing them with a better ease of use represent two key issues for the data visualization process.
6) Finally, evaluation of expected results is geared to determine whether the goals have been achieved or not. In this context, the degree of effectiveness and the achievement of expected results represent the core of the evaluation process. By an operating slant (Teyseyre and Campo, 2009), the evaluation process can be realized empirically – e. g. questionnaires, interviews, focus groups, controlled experiments –, or analytically – e. g. cognitive walkthrough, expert reviews.

OVERVIEW OF DATA VISUALIZATION METHODS

This paragraph contains a literature review about visualization methods (Khan and Khan, 2001):
1) Table is an easy-to-understand and flexible tool. It can be adapted to different contexts and is geared to render data in compliance with a frequently encountered format full of variables and values.
2) Pie Chart is a roundish-shaped tool divided into several slices. Variables are represented by slices and valued at numerical values.
3) Bar Chart is a very popular tool adopted in order to render data. It is highly flexible and adaptable to different contexts.
4) Histogram is useful tool in order to represent a number of categories of variables. The clustering process depends on the underlying statistical elaboration of data.
5) Line Chart is among the most commonly adopted tools and is composed mainly of a set of points linked to each other.
6) Area Chart is a tool visualizing data in a circumscribed area.
7) Scatter Plot is a tool rendering points in Cartesian coordinate.
8) Bubble Chart is a Scatter Plot endowed with points of different diameters.
Multiple Data Series integrates some of the aforementioned tools.

RESEARCH METHODOLOGY

Academic meetings organized for students are mainly geared to enhance knowledge and idea generation and sharing. Indeed, such activities play a key role in student conferences and are triggered also by disputes among participants (Engeström, 2000). Moreover, students lack experience in terms of professional networking and, thus they are not used to act in such environments. In addition, they experience significant dissimilarities in terms of cultural background. This is even more true if Asian-American student interactions are considered. As a matter of fact, attendees may experience also difficulties while communicating and building on a shared vision. Organizers can adopt ad hoc tools and techniques in order to trigger knowledge sharing activities and to overcome difficulties of participants in terms of working in groups around specific sub-topics related to the conference. In particular, students and, more in general, conference attendees tend to be lazy when it comes to deepen hot topics. Moreover, further obstacles may be generated by specific conference rules, which may influence participants' behavior (Aramo-Immonen, Jussila and Huhtamäki, 2014).
The conference environment is generally set up to maximize participants' engagement. However, there also innovative tools and techniques, which may foster students' engagement. In this context, OSNs communities prove to provide conference participants with a more stimulating environment, thus allowing them to explicitly convey their ideas (Aramo-Immonen, Jussila and Huhtamäki, 2014).
In the light of the role played by such innovative solutions, many conference managers decided to adopt them for their events. They did so in order to trigger collaboration and knowledge sharing activities in contexts characterized by cultural barriers (Jussila, Huhtamäki, Kärkkäinen and Still, 2013). OSNs communities represent an effective tool in order to begin the aforementioned activities before the starting of the conference. Moreover, they are an additional source of data and information, which may help predicting the emergence of specific hot topics and the development of professional sub-networks.

RESEARCH METHOD

Data extracted during the pre-event online activities at hand help data scientists to analyze attendees interactions before the starting of each conference. The basic assumption is that such OSNs communities exist and are rich in terms of interesting and reliable data related to Asian-American student networks (Card, Mackinlay and Shneiderman, 1999; Benbasat, Goldstein and Mead, 1987). Therefore, data visualization tools and methods play a

key role by a methodological point of view, since this research has been designed to exploit data visualization techniques (Ware, 2004) in order to analyze three conference-related communities on Facebook - i. e. the Taiwan-America Student Conference (TASC), the Japan-America Student Conference (JASC) and the Korea-America Student Conference (KASC). The time intervals selected in order to observe each conference and to collect the corresponding data cover from 30 days before to 30 days after application deadlines.

The research method is compliant with the data science research approach (Hey, Tansley and Tolle, 2009) and is focused on capturing reliable and relevant data and information from online sources (Davenport, 2014).

METHODOLOGY VS CONTEXT-DEPENDENCY ISSUES

Event managers planned specific activities in order to foster knowledge sharing and collaboration before, during and after the three conferences at hand. Most of the pre-event activities can be observed and examined by focusing on the OSNs communities associated with the Asian-American student conferences (TASC, JASC and KASC), which are being held in July-August 2015. Such academic meetings are held periodically. OSNs communities can not provide analysts and data scientists with the whole set of data and information about attendees' interactions. In fact, online sources are able to capture only a quota of the pre-event patterns involving students. However, such a quota is intended to be relevant since the attendees are young and generally highly connected. Therefore, they are generally inclined to share ideas, knowledge and experiences, to establish deep relationships with each other and also to gain knowledge from the novel things they get in touch with. Ultimately, the online networks at hand – i. e. TASC, JASC and KASC, which are composed of 2,439 users, 1,481 users and 654 users, respectively - and the corresponding data and information constitute an extremely large and significant set of raw data to work on.

PROCESS OF DATA-GATHERING

The design of this research work led authors to adopt the NetVizz app v1.2 (Rieder, 2013) in order to gather useful data. In particular, the data-gathering process was realized by means of a generic Facebook profile in order to log in into such a widespread OSN. Afterwards, the three online student communities at hand were included among the liked ones by the above-mentioned Facebook profile. By a methodological point of view, NetVizz extract reliable data from Facebook makes it possible to render such data by means of a number of visualization tools and methods, thus ensuring independence of the data elaboration process from the specific software solutions, methods and techniques selected by authors (Rieder, 2013). Data visualization is performed with Gephi software (Bastian, Heymann and Jacomy, 2009), which is one of the several NetVizz-compatible solutions. Such a software includes a lot of algorithms, filters, metrics and personalization options in order to better examine data and to contextualize the analysis according to the aforementioned context-dependency issues. It also ensures flexibility, scalability, WYSIWYG and user-friendly features. All the required data and information for the NetVizz queries are reported in the following (Table 1). This way, transparency and reproducibility of the research work at hand are assured.

Student conference	**Facebook ID**	**Data collection and extraction (day/month/year)**		**Likes**
		From	***To***	
TASC	225845154251232	29/01/15	30/03/15	2,439
KASC	333942935541	04/10/14	01/02/15	654
JASC	114135335328456	01/12/14	30/01/15	1,481

Table 1: Data about data-gathering by means of NetVizz.

DATA PRESENTATION AND RESEARCH FINDINGS

The number of nodes is 122 for TASC with 281 directed edges linked to them. JASC counts on 143 nodes and 190 directed edges, while the graph of KASC is composed of 40 nodes and 52 directed edges.

Understanding how graphs are close to complete is a key research issue in this field and led authors to measure graph density. Related metrics and algorithms provided the following values: 0,009 for JASC, which is affected by a very low level of connection among its 1,481 members; 0,019 for TASC, which provides the middle value that is the median; 0,033 for KASC, which represents the highest value of graph density and is also associated with the lowest amount of likes.

Triggers planned by event managers tend to fail due to the very low levels of graph density, since such graphs prove to be less characterized by interactions among participants. Changes in Facebook privacy policy determined the loss of some attributes, which can no longer be extracted from the OSN. Therefore, this exogenous factor – further detailed in the conclusive section - should be taken into account while designing future research works in this field.

Afterwards, also the connected components were examined. In particular, authors considered strongly and weakly

connected components (hereinafter SCC and WCC, respectively) for each graph (Robert Tarjan, 1972). The number of WCC is equal to 1 for TASC, 3 for KASC and 1 for JASC, while SCC are 122 for TASC, 40 for KASC and 143 for JASC.

Based on the above results, student sub-graphs, which mirror the corresponding virtual networks of attendees, reveal a peculiar interaction pattern. In fact, they gain experience and share knowledge only within their own small sub-communities. Hence, they interact only with colleagues belonging to the same sub-network and act separated from each other community member. Strong intra-component ties emerge, while each OSNs community is divided into several SCCs. Moreover, graph dynamics and members' behavior do not reveal an elitist inclination, due to the widespread inclination in each community to establish stable relationships among SCCs members. The aforementioned changes in terms of Facebook privacy policy did not allow to obtain data and information for a comparative study concerning real-world vs virtual communities. In particular, lack of data due to such an exogenous variable led authors to be unable to clearly state whether virtual communities mirror real-world relationships among students or not.

Modularity is a further element generally taken into account in order to better analyze sub-network communities. In detail, it is measured according to different metrics and algorithms. Modularity analysis in Gephi is composed of Betweenness Centrality Distribution, Closeness Distribution and Eccentricity Distribution. Standard parameters and resolution settings have been adopted (Blondel, Guillaume, Lambiotte and Lefebvre, 2008; Lambiotte, Delvenne, Barahona, 2009). KASC and JASC are characterized by comparable values in terms of modularity and modularity with resolution (>0,500), while TACS is associated with a lower values (=0,344) if compared to them. In addition, authors quantified the number of communities for each student conference: TASC, KASC and JASC are associated with a total amount of 9, 7 and 5 communities, respectively. Parameters and resolution settings stay unchanged. Therefore, homogeneity of data is ensured as well as the analysis of the three student conferences.

Moreover, authors determined shortest paths (SP), average path length (APL) and network diameters (ND) for each community: the three networks showed the same number of APL and ND, which is equal to 1; graphs associated with KASC, JASC and TASC count 52, 190 and 281 SP, respectively. HITS and centrality measures have been quantified based on Brandes (2001), Kleinberg (1999) and Brin and Page (1998).

Ultimately, the overall analysis of the network tends to confirm that there are several components and the degree of connectedness within most components is high. Data gathered from Facebook are shown in Table 2.

Data/Conference	KASC	JASC	TASC
Size distribution (# of nodes)	40	143	122
# of directed edges	52	190	281
Graph density	0.033	0.009	0.019
Weakly Connected Components (WCC)	3	1	1
Strongly Connected Components (SCC)	40	143	122
Modularity	0.539	0.501	0.344
Modularity with resolution	0.539	0.501	0.344
Number of communities	7	5	9
Shortest paths (SP)	52	190	281
Network diameter (ND)	1	1	1
Average path length (APL)	1	1	1
Betweenness Centrality Distribution (BCD) count range for values = 0	[40-ε; 40+ε]	[140; 150]	[120; 130]
Betweenness Centrality Distribution (BCD) count range for values = 1	[0; 0+ε]	[0; 0+ε]	[0; 0+ε]
Closeness Centrality Distribution (CCD) count range for values = 0	[12,5; 15,0]	[0; 10]	[10; 20]
Closeness Centrality Distribution (CCD) count range for values = 1	[25; 27,5	[130; 140]	[100; 110]
Eccentricity Distribution (ED) count range for values = 0	[12,5; 15,0]	[0; 10]	[10; 20]
Eccentricity Distribution (ED) count range for values = 1	[25; 27,5	[130; 140]	[100; 110]
PageRank Distribution count range for values tending to 0	[40-ε; 40+ε]	[140; 150]	[120; 130]
PageRank Distribution count range for values tending to 1	[0; 0+ε]	[0; 0+ε]	[0; 0+ε]

Table 2: Data from Gephi.

CONCLUSIONS

Latest changes in Facebook privacy policy determined the lack of data and information associated with the detailed investigation of potential conference hot topics. Such an exogenous variable affected the availability of reliable and pertinent data concerning with users behaviour. Therefore, analysts and data scientists risk to observe the failure of the triggers planned by the event managers due to the lack of data about the resulting users behavior. In fact, outcomes associated with triggering efforts in the conference communities may be considered erroneously insufficient. This happens because of the aforementioned recent limitations to the quality of data extracted with the NetVizz app, which make it difficult to capture both negative and/or positive outcomes linked to the conference triggers.

In addition, the added value of this study is also determined by the opportunity to exceed the above-mentioned limitations due to exogenous factors. Indeed, research results showed that the overall structure of this work is able to lead authors to the identification of possible sub-group dynamics and, hence, to model the underlying interaction patterns. Moreover, it represents also a guideline for the design of future research efforts geared to investigate and to determine the interactions among conference participants in pre-event online settings. Ultimately, the effectiveness of the adopted research methodology keeps unchanged since its reliability stay valid also when the expected quality of available data changes.

This work represents also the very first field application its kind of the proposed methodology, which is geared to determine both hot topics and human behavior in academic contexts. Therefore, this reveals also the exploratory nature of this paper, which aims to encourage field scholars to further deepen such topics and to develop more detailed research frameworks for the investigation of attendees' interaction patterns. In the light of this, the first work about such a hitherto unexplored field unveils the significance of predicting event hot topics and related participants' behavior by means of novel tools and visualization methods. In fact, the effectiveness of the methodology, the novelty of the visualization tools and techniques adopted and the research results prove how the study structure may be contextualized also for other research works applied to different fields.

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Views Of Child Development Program Students About Information And Communication Technologies

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ABSTRACT
This study aims to examine the opinions of students regarding the use of internet and information technologies. The research was carried out on students who are studying at child development associate degree at Vocational School of Health Services, Sakarya University. An emprical study was conducted to analyse the research question. A semi structured interview was designed by researchers in the light of literature. The results indicate that students generally use information technology for their communication, learning, research activities and having fun rather than for personel development and facilitating their Works. Students state that most positive aspects of information technology is to facilitate communication and to enable to be up to date about daily developments. However, findings show that informaton tecnology causes time loss and creates addiction as the negative aspects from the students' point of view. The results also come to conclude that students mostly access to internet at home and by mobile phones. According to the findings, the study emphasises that information technologies is rapidly developing and students needs to be prepared in the line with these developments. From this point, some suggestions are given at conclusion part.

Keywords: Child development, information technologies, internet.

INTRODUCTION

ICT (Information and Communication Technologies) became an important part of our daily lives with technology investments in our country and almost all countries in the world. ICT comes on the basis of current developments. Especially in recent years, rapid developments in ICT field made technology support necessary for the learning and teaching process in educational environments, and learning environments and ICT began integration. Information and communication technologies are technologies that provide collecting information, processing and storing it and transmitting the information if necessary or access to information from anywhere (Ceyhun & Çağlayan, 1997). On the other hand, Sarıhan (1999) explained the ICT as technologies serve gathering, storing, processing, accessing and distributing the information, all of the services and applications and the whole information on the system.

ICT stands for transmitting the technology, storing, uncovering, sharing and accessing it. As well as radio, television, video, DVD, phone, mobile phone, satellite systems, computer and network hardware and software; services and hardware provided by these technologies (video-conference and electronic mail) also included in ICT scope (UNESCO, 2006). ICT use increases and gains importance day by day in many fields such as education, medical, business and defense systems. In education field, ICT is used both as a purpose and as tool in learning and instruction process and management.

Considering the basic qualifications expected for the trained work force in current information society, it is expected from the educational institutions that prepare individuals in line the needs of the society to be in a system compensates these needs. Therefore, it is important to integrate ICT to the schools, widespread and use it as an effective material in learning and instruction process. ICT use as a support for education will cause to improve learning and instruction quality and achieve gaining attention of the students.

Preschool period the first step of the education process is an important step to determine the students' viewpoints to the school. Effective ICT use in this period improves students' education quality. Because of this reason, viewpoints of preschool teachers and assistant teachers to the information and communication technologies are important.

Students graduate from child development associate degree program as child development professional staff title and usually work in preschools connected to the MONE (Ministry of National Education), in private preschools, kindergartens and special education and rehabilitation institutions. Child development staff's viewpoint to the ICT is more important because they deal with children one to one and they guide the activities in classroom. Because

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of their role in preschool education, child development staff's use of ICT and awareness of its importance can provide to enrich the education contents and environments.

The effect of ICT on children were tried to be determined with different studies (Levin, Richardson and Arefah, 2002; Levin and Arefah, 2002; Frantom, Green and Hoffman, 2002). According to Köse and Gezer (2006) and Harmandar and Samancı's (2000) researches, it was determined that students' attitudes on computer and internet use are positive. On the other hand, according to Köse, Gencer and Gezer's (2007) research on associate degree students, students' attitudes on computer and internet use are positive but also male students have more positive attitudes on computer and internet use than female students do. Gök, Turan ve Oyman (2011) carried out a study with preschool teachers and examined their views about ICT use. Results showed that when preschool teachers use ICT effectively, these technologies have a positive effect on students' interest and attention levels.

Information and communication technologies are used in almost all environments beginning from preschool period. The important point in this scope is to explain and transfer these technologies to children consciously and correctly. For this mission, child development students working in preschool institutions have important responsibilities. If students from child development department recognize ICT correctly, they can transfer correct information about ICT to the students. Therefore, this research is important because of examining the child development students' views about information and communication technologies. In addition, this research can be a support for the qualitative studies about this subject area.

Aim of the Study

It is aimed to determine the views of child development associate degree students about information and communication technologies. Research questions are given below according to this basic purpose:

1. What are the information technologies that child development students use them in their daily lives?
2. How many years do the child development students use ICT?
3. What are the aims of child development students ICT use?
4. What are the views of child development students about positive aspects of ICT?
5. What are the views of child development students about negative aspects of ICT?
6. How many years do the child development program students use Internet?
7. How do the child development students access Internet?
8. What are the reasons of child development students Internet use?
9. What are the periods of child development student daily internet usage?

METHOD

This study aims to determine the views of child development students about information and communication technologies. Survey method is used to collect the research data.

Participants

Sakarya University, Medical Services Associate Degree, Child Development Program students in 2012-2013 semester are the participants of this study. There is not a sample for this study; instead, 62 students participated totally. All of the participants are female students between 18 and 24 ages.

Data Collection Tool

Data was collected with a tool developed by researchers. Open-ended questions were asked in the questionnaire about students' ICT and internet usage and their personal information such as gender, grade and age. Three different experts evaluated the data collection tool and after their feedbacks revisions done and tool was applied to the participants.

Data Analysis

Data collection tool was applied to the students by researchers. Researchers applied the questionnaire face to face. Data was analyzed with descriptive statistics such as frequency (f) and percentage (%). In addition, responses answered to open ended questions were added to the research findings.

FINDINGS AND COMMENTS

All of the child development program students answered **Yes** to the question "Do you use any kind of information technology product?" Responses for the question "Which technologies do you use in your daily lives?" are given below:

Table 1: Information Technologies Used by Students in Daily Life

	f	%
Computer	52	48,60
Television	10	9,35
Phone	40	37,38
Internet	5	4,67
Total	107	100

According to the table students use mostly computer with a percentage of 48.60% and they use least internet with a percentage of 4.67%. In addition, they use mobile phone with a percentage of 37.38% and television with a percentage of 9.35% as information technologies.
Findings about the question "How many years have you used these technologies for?" are given below:

Table 2: Students' Information Technology Use Periods

	f	%
1-3 years	14	22,6
4-6 years	24	38,7
7-9 years	18	29,0
10 years and over	6	9,7
Total	62	100

38.7% of child development students have used these technologies for 4-6 years, 9.7% of them have used for 10 years and more.

Responses of child development students for the question "What is your aim to use information technologies?" are given below:

Table 3: Students' Aims of ICT Use

	f	%
Making course	12	10,34
Getting information	17	14,66
Fun	20	17,24
Chat (Social Networks)	9	7,76
Research	16	13,79
Communition	32	27,59
Play a game	4	3,45
Agenda	4	3,45
Personel development	1	0,86
Lives easier	1	0,86
Total	116	100

Child development students mostly use ICT for communication (27.59%) and fun (17.24%). They use ICT least for personal development (0.86%) and because it makes their lives easier (0.86%). In addition, they usually use ICT for homework, obtaining information and doing research. On the other hand, they use ICT for social media, following agenda and playing game rarely.

Responses of child development students for the question "What are the positive aspects of ICT?" are given below:

Table 4: Students' Views About ICT's Positive Aspects

	f	%
Convenience in Preparation Course	7	6,36
Communication	39	35,45
Amuse	9	8,18
Easy Access	12	10,91
Makes People More Conscious	2	1,82
Daily Life Convenience	6	5,46
Research	10	9,09
Research Homework	6	5,46
Following Agenda	19	17,27
Total	110	100

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According to child development students, the most positive aspects of ICT are communication (35.45%) and following agenda (17.27%). The least positive aspect according to them is that ICT makes people more conscious (1.82%). Easy access and being helpful while doing research are also positive aspects of ICT according to students.

Responses of child development students for the question "What are the negative aspects of ICT?" are given below:

Table 5: Students' Views About ICT's Negative Aspects

	f	%
Not To Spare The Real And Virtual	1	1,3
More Time Loss	31	40,26
Sociality Cuts	8	10,39
Health Damage	7	9,09
Addiction	16	20,78
Using the Aim of Outside	6	7,79
Incorrect Information Learning	2	2,6
Carelessness	1	1,3
Destroying the Reading Habit	1	1,3
Reliability	1	1,3
Negative Behavior Development	3	3,9
Total	77	100

Child development students determined the most negative aspect as time loss (40.26%). In addition, they expressed that ICT have an addiction effect on people (20.78%). However, some negative effects such as not to spare the real and virtual, carelessness, destroying the reading habit and inability to build trust are very little.

All of the participants stated that they use internet. Findings about students' internet use durations in terms of years are given below:

Table 6: Students' Internet Use Periods in Terms of Years

	f	%
1-3 years	20	32,3
4-6 years	20	32,3
7-9 years	19	30,6
10 years and over	3	4,8
Total	62	100

Child development students stated that 32.3% of them have been using internet for between 1-3 years and 4-6 years, 4.8% of them have been using it for 10 years and over.

Findings about child development students' responses for the question "Which method do you mostly use to access internet?" are given below:

Table 7: Students' Internet Access Methods

	f	%
Home	51	82,3
School	0	0
Internet cafe	1	1,6
Mobile Phones	10	16,1
Others	0	0
Total	62	100

A big part of students with a percentage of 82.3% expressed that they access internet from home and 1.6% of them expressed that they access internet from internet café. Another important finding is that 16.1% of students access internet from their mobile phones. This information shows that accessing the internet from mobile phone is increasing day by day.

Findings about the question "For which purpose do you mostly use the internet?" are given below:

Table 8: Students' Internet Use Purposes

	f	%
Course	13	21,0
Research	26	41,9
Personel Development	3	4,8
Games	5	8,1
Chat	15	24,2
Others	0	0
Total	62	100

41.9% of students use internet for research, 24.2% of them uses it for chat, 21.0% of students use it for courses, 8.1% of them use it for playing games and 4.8% of students use internet for personal development.

The last findings about students' responses for the question "How many hours do you spend on internet?" are given below:

Table 9: Students' Daily Internet Use Periods

	f	%
0-1 hours	10	16,1
1-2 hours	17	27,4
2-3 hours	17	27,4
3-4 hours	13	21,0
4 hours and over	5	8,1
Total	62	100

27.4% of students spend 1-2 hours and 2-3 hours, 21% of them spend 3-4 hours, 16.1% of them spend 0-1 hours and 8.1% of them spend 4 hours and more on internet.

RESULTS AND RECOMMENDATIONS

Lifelong learning is a necessity for each individual because of our century is the information age. Students graduated from child development associate degree are take place in educational environments. At the same time, education has to prepare individuals to the new world situations. Considering the age group that will be guided by child development students, qualifications of that age period is important. First years of life create a basic for all learning situations. Therefore, preschool period staff has to be qualified for the new age, use ICT in place and effective and this staff has to be a guide and sample for children while using these information and communication technologies. It can be said that a big part of information produced in current period stored in computers, internet and smart phones and it is distributed with these tools. This result showed that students use mostly computer and smart phones for accessing the information.

Findings of the study showed that child development students use ICT mostly for fun and communication, they use ICT moderately for obtain information and research and they use it least for personal development and make things easier. At the same time, findings showed how much child development students use ICT for research and obtain information. According to Özmusul's (2010) study, students use ICT for obtain information and research in intermediate level. In another study, Rideout et al (1999) determined that students have fun most of the time they are spending with television and computer.

As a result, positive aspects of ICT are communication and following agenda and negative aspects of ICT are waste of time and addiction according to the students. Another result of the study is that child development students' internet use periods are in order of 1-3 years, 4-6 years and 7-9 years. It constitutes a large part of participants. Considering the average age of the participants, their first meeting with internet is on their childhood. This result showed that child development students met with internet early ages. Wright (2001) characterized the young age as internet users. Similar results gained in this study.

Findings of the study showed that child development students access internet mostly from home and their mobile phones. This result showed that students use mobile devices for internet access nowadays. In addition, this result showed that importance of learning with mobile devices is increasing. Another result of the study is that research and chat are main purposes of internet use. This result is similar with Tutgun Ünal (2012) and Tutgun, Deniz and Moon's (2011) studies. Other purposes of internet use are doing homework, playing games and personal development. Another important result in the study is students' internet use periods. According to the findings, 91.9% of students use internet in a 0-4 hour's period. 27.4% of them use internet for 1-2 hours and 2-3 hours.

This study covers a limited participant group about ICT in education. Studies that are more detailed can be done with extending the participant group to support subject area. In addition, this study showed that use of mobile devices in education is increasing. Studies can be done about using mobile devices in education. Considering these results, it is recommended that necessary trainings have to be given to the students to make them use not only computer but also other ICT devices such as tablet, mobile devices and internet for their own benefit. It is recommended to provide necessary motivation to students in order to use internet for research and obtain information. In addition, organizing educations for students to make them use ICT more planned and in a disciplined way will be helpful for them.

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Why And How Should Turkey Build The Nation Brand?

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ABSTRACT
To be esteemed and reliable, countries must build their own "nation values" in the 21st century. Therefore, countries gain many advantageous in the political, social and cultural fields as well as being an attraction center. This paper analyses underlines the necessary steps for building nation brand and makes offers for the future.

INTRODUCTION

The notion of nation brand becoming prominent in the 21st century has made contributions to the competition between countries in the fields of economy, politic, society and culture. Countries building brand value will lose power in competition if they fail to build their own brand and exhibit difference while becoming an "attraction center". As Anholt underlines, world is a market area and each country must compete to share trade, policy and socio-cultural events of the world. Have a brand in such a market is crucially important for countries (2008: 31).Countries fail to build a brand could not draw the foreign invest and tourists, increase the exports and living standards (Gilboa, 2008: 67). It is observed that the image and reputation of country manage the strategic communication process properly and take the support of foreign public opinion, have developed positively in the international environment (İnan, 2012:66). This positive message enhances the nation values of countries.

Big brands and business always search new regions to produce goods more cheaply. On the other hand, underdeveloped and developing countries lean towards the foreign invest as new working opportunities will emerge and so employment will increase through the foreign investors. For big brands and producers the tax practices, transportation facilities and regulations of countries in which they make investment have great importance. Moreover, political and economic stability and smooth and free competition area are crucial for the foreign investors. These are among the obstacles that stop the foreign capital flow; unfair competition environment caused by changing practices according to people or terms, red-tapes, unrecorded economy, unequal and inconsistent practices. However, while the foreign investors are choosing the country for making investment, they have been influenced by the image and perception of countries in the world scene either positively or negatively. On the other hand, tourism- as a 4th great sector of the world- is an effective field to promote countries. It should be clearly said that only sea, sand and sun are not enough to draw satisfied number of tourists. Thus, countries should create a new branding strategy with different elements by using their present potential (Yıldırım, 2014: 157).

THE CONCEPT OF NATİON BRANDİNG

In today's world, countries fiercely compete with each other for the direct foreign investment, brand export and tourism. Countries are recalled by their brands and if these brands are demanded and used by big masses so the image of these countries gains advantageous (Olins, 2007: 172). With the studies of nation brand, image of countries is reshaped, through this image a new identity perception is gained and reflected on overseas. This process requires a long term, determined and patient study (Melissen, 2007: 21).

Countries, built the nation value and gained an esteemed, reputable and reliable identity have a key to open doors in many fields ranging from economy to policy. Anholt explains the importance and gains of nation brand that (Anholt, 2014: 296): settlements take the brands not from the marketer of government but the public opinion. In busy and crowded world, many of us have no time to learn how other places look like. Within the modern world complexity, even we could not confess to ourselves, we survive unconsciously by adopting some simple clichés. Thus, Paris means trend, Japan means technology, Sweden means richness and sensibility, Rio de Janeiro means carnival and football, Tuscany means good life and African countries mean poverty, corruption, war, famine and illness. Many of us are so deeply anxious about own country that we could not make much effort to have accurate, impartial and information based opinions about the rest 6 billion people and almost other 200 countries.
Either positive or negative, real or unreal, these clichés and stereotyped opinions influence our attitude towards other settlements, people or goods. National image is important. This importance will increase as long as the world becomes more connected, the globalization of society, communication, trade, education and policies continues. Governments or citizens of countries, regions or cities which are lucky or talented to have a good reputation could more easily take place in the global scene: their nation brand is like a business card which goes before them , opens the door, creates trust and respect while increasing the expectation about quality, competence and integrity."

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Many of countries communicate with foreign societies and create their image in other's mind. The image and perception in the mind are mostly supported by these 6 fields of activity (Anholt, 2014: 298):
-*Tourism;* Like tourism promotion, it is important that people as tourist or for business trips come and see the country. The positive impression of people coming and having chance to see the country is dramatically important. Tourism agencies have strategic importance for the promotion of countries and creating positive impression.
-*Export of good and service*; Goods and services exported to other countries could have role like embassies. Used and demanded goods and services make great contributions to the nation brand value.
-*Government policy;* commonsensical, pro-peace, ethical and legal policies implemented by governments in both national and international area are followed and watched by public opinions. This also makes great contributions that the media is interested in these policies; puts on the agenda.
-*Foreign investment;* this is dramatically important development that a country convinces the foreign capital to make investment and draws foreign talents to the country. If foreign capital and employees choose a country this shows economic, political and social indicators are in a good level. This positive perception leads that nation value of country is understood positively.
-*Culture;* Cultural fields are important for the promotion of country and creation of sympathy and intimacy. Societies exporting their cultural values to other countries could build strong bonds. This bond creates common sense and increase the brand value.
-*People*; the human sources of a country, world-famous, artist, sportsman, scientist, culturist make important contributions to the positive perception of country and creates respect and reputation. These values reflect on brand value positively.
As it is seen, there are many instruments to use for nation branding. Naturally there have been differences between possibilities and potential of each country. Countries firstly should become aware of their present potential, emphasize on the strong points and enhance the weak ones. To sum up, they should understand to gain respect, reputation and reliability; strong and effective nation branding is a must.

TURKEY AND NATION BRAND

Turkey has an important potential to create brand value with the present historical, cultural values and human sources. However, this potential could not be utilized enough to build nation brand and there is no strategic plan or study for the future. This is a big problem that foreign public opinions misunderstand Turkey. Through various channels, wrong or incomplete information about Turkey has come out and consequently this wrong information has changed into "misperceptions". For countries, eliminating these misperceptions requires a long time. The present picture of Turkey shows us the fact that the image of Turkey is not managed with strategic and integrative perspective. The misperceptions and wrong information are could only be influenced positively through long term planning and opportunities emerged from strategic communication management. Especially in the EU membership process, eliminating the misperceptions and wrong information is primarily important (Özkan, 2015).

WHY SHOULD TURKEY BUILD THE NATION BRAND?

Unfortunately, Turkey is one of the countries which understand the importance of nation brand very late. In the new century countries has so much power with their brands. Thus, Turkey requires serious branding efforts and management in goods and services. "The Brand Council" is established to spread this need in society is an important step. To take part in the competition, this council aims to increase the brand accumulation of Turkey and enhancing the marketing eco-system and increase the contribution of branding to economy. These are among the goals of brand council which desires to have "Valuable Global Brands" in Turkey to lead business world and public institutions, creating a vision and encouraging.

Brand Council Chairman Güven Borça told that Turkey is ranked at 19th in the world and 9th in Europe with 251 billion dollar brand value according to the data of Brand Finance 2014. He also said about why Turkey needs to focus on branding much more: "Turkey is a country with 77.6 dynamic populations, 820 billion dollar national income and over 400 billion dollar foreign trade volume. However, the total value of the most valuable 100 brands is 30.8 billion dollar. The number is not as valuable as single Japanese auto brand. According to the Brand Finance list, there is no Turkish brand in first 500. The total export is not even equal to intermediate goods import and moreover the export dependent on import has been increasing. To eliminate the deficit, we should export the branded product. Without branding, we experience two losses. First, increasing export-import deficit and increasing import item. Second, selling our brands for little money we could not increase our brands' value …(Sabah, 2015).
As Borça underlines, countries fail to build brand value have experienced a great economic loss. Besides this loss, this brings about political, social and cultural loss when the nation brand is considered. To prevent this, Turkey should build a strong, reputable and respectable nation brand.

Wally Olins, the Founding Chairman of Saffron Brand Consultants working on nation and city image/brand says

in his interview in 'The Brand Age' magazine "Turkey makes efforts to increase brand value but there is no meaningful frame for these efforts". He also explains his strange determinations that: "You witness the political and economical development of Turkey. However there is no integrity or national branding policy. Tourism and policy are very different topics. Turkey seriously requires a coherent attitude and national branding policy. This should be underline that Turkey is a Muslim country that has shown tolerance towards religions and ethnic origins from past to present. We are talking about such a country that has connection both with Europe and the Middle East. There will emerge more clear and understandable perception if Turkey could explain itself successfully through tourism and economy policies. Turkey has an opportunity to change rapidly and manipulate the perceptions. The reality of Turkey is now changing but perceptions could not keep up this change. Turkey needs to build a clear brand policy" (The Brand Age, 2015).

Olins also interprets how Turkey's image in overseas reflects on the brand value that: "from the view of tourism, Turkey has an important position as tourism country as it is very nice place for holiday. Thus, "as a tourism brand" Turkey is a reputable brand. Unfortunately, the brand perception about Turkish goods is not as effective as tourism. When considered the advanced technology and goods with high added value, people are not aware that Turkey is a brand or producer. For this reason, I could say that the reputation in overseas changes according to the field of activity. The level of brand perception in one field might be high while it might be low in the other field (The Brand Age, 2015). The points emphasized by Olins explain us why Turkey should immediately begin to work for building nation brand. Turkey should firstly create "a national branding policy" and so a basic road-map with strategic vision.

HOW SHOULD TURKEY BUILD THE NATION BRAND?

To build the nation brand and enhance the image, Turkey should primarily initiate an exclusive study to determine the mistakes, needs and perception in the world public opinion. In other words, Turkey should assess the extent of the damage. Turkey should do this honestly and sincerely and all mistakes and needs should be revealed. Not only the needs and mistakes but also the successful studies and right efforts should be determined. "Assessing the extent of the damage" is important to "diagnose". After finding the problem with multi-dimensional and exclusive study, a vision including all class of the society should be created. Before, this should be understood that building the nation brand is not only the responsibility of "the government or government agencies". The artist, academicians, sportsman and NGOs make great contributions to build an effective and strong nation brand. Turkey should create a frame to be understood correctly by using the present human source potential (Özkan, 2015).

With opportunities of the strategic communication management, Turkey should determine properly the target audience and message as well as the instruments for reaching to the target audiences successfully. Turkey should focus on the distinctive conditions of each society or country. This means Turkey should have a sophistical approach rather than wholesale one. Turkey needs a "strategic communication plan" as a road-map in the globalizing world. This plan, having a guiding role, should be drawn up considering the potential, facilities and priorities of Turkey and it should also enable the society to protect the goals and strategic plan. To have a success from the practice of goals, the social support is essential (Özkan, 2015).

The founding Chairman of Saffron Brand Consultants Wally Olins explains what Turkey primarily needs while building the nation brand: "You have to be aware of your target audience for place building. You have to know distinctive characteristics differing you from others and making you attractive. If a topic is mentioned before, you have to prevent the misunderstandings about it in another time or place. Unfortunately, in Turkey sample, there is no understandable or clear 'brand communication'. The communications used in the field of tourism or culture and the commodity export are different. Turkey, basically, needs this. Turkey needs a view and determination. Turkey could draw the attention of the whole world if views making it attractive are explained (The Brand Age, 2015). "Big and attractive idea", underlined by Olins, and skill of conveying this idea clearly and apprehensibly give clues about how Turkey should build the nation brand.

Turkey needs to build the nation brand on his own basic story. "Big and attractive idea" will be included in this story. This story should be based on history, civilization values, culture, literature, poem, belief, tolerance and international values, enriching the humanity. All these values should create the big and attractive idea. This story should include the whole Turkey and different views, ethnics, belief and cultures that could freely express themselves. This story should have peace, brotherhood, freedom, love, tolerance, fair, equality and mercy and sincerity as well as being inclusive. Turkey should also manage to tell this story to other societies/countries properly, effectively, decisively and convincingly. Thus, the effective strategic communication methods, techniques and opportunities of advanced technology should be utilized and Turkey should be understandable and convincing as far as possible. If a good story could be told audiences with a proper communication strategy and effective instruments Turkey will have certainly successful results. Turkey should follow such a way while

building the nation brand. Working so much and being patient and decisive should always be in minds.

CONCLUSION

Turkey, aiming to be a reputable and reliable in the region and to establish permanent relations with foreign societies by using soft power effectively and willing to focus on the fields of economic, policy, society and culture should primarily build the nation brand in the new century. It should be understood that a valuable and strong nation brand is like a magic key that could open all the doors easily and a strategic vision to mobilize the present potential of Turkey should be created. Turkey should build "the nation brand" with the conscious of mass mobilization and create awareness in every segment of society. In addition, a policy including the whole country should be followed. Every segment of society should also contribute to the national brand and communication strategy of Turkey as well as adopting the road-map. This road-map, not changing according to the government and being created by a supra political perception, will be milestone for building a strong, reputable, reliable and prestigious Turkey.

Turkey should adopt a holistic approach and build a structure which enable to control strategic communication management centrally, as the base of nation building. This structure might be "ministry of communication". Focusing on communication management in the ministry level will make the strategic efforts more planned, systematical, effective and permanent. Today, many institutions and agencies are responsible for the communication activities of Turkey. However, sometimes these institutions fail to communicate and they could face to different views. To prevent this trouble, ambiguity and different discourses, ministry of communication as a high authority could be established and so the whole communication activities could be followed with other partners (NGOs, universities, political parties, media, experts, opinion leaders and etc.) in the frame of determined strategic plan. Turkey should always prioritize the policies based on fair, peace, brotherhood and equality, protect the belief on the international values and the rule of law, underline the goodness, welfare and happiness of humanity and defend the human rights and freedom.

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Writing Anxiety: A Case Study On Efl Students' Major Reasons Of Writing Apprehension In Writing Classes

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ABSTRACT
Writing apprehension has been a common problem among the second language learners. Many researchers have indicated that writing apprehension is a crucial determinant of learner's success in learning how to write effectively in English. Therefore, the purpose of this survey is to reveal the major reasons why students have difficulties in their writing courses. Ten pre-intermediate level English preparatory school students have participated in this research. They were interviewed and requested to reveal the main reasons why they do not feel comfortable while practicing writing. After sufficient data was collected, the most important reasons that made them feel demotivated and anxious while writing were emphasized. According to the results of this research, learners highlighted that they lack crucial writing strategies like organizing their ideas and combining them also they considered that they do not have sufficient knowledge of vocabulary, they have poor grammar and they cannot express their ideas clearly in English and they do not find the writing topic interesting to think about and write. By revealing these major reasons in writing process, this project will contribute to future research on similar topics.

Keywords: Writing anxiety, EFL students, and reasons of writing apprehension.

INTRODUCTION

Writing is an important language skill and it is really an essential part of academic success. However, writing is not an easy task as people consider; it is a complex and sophisticated skill when we compare it to the other skills in English. For the group of students, it is a complex activity because it involves certain level of English knowledge, writing rules, vocabulary and grammar. This process is a really hard one because the writer is supposed to think, compose and create ideas also it is really important to check the relevancy of ideas, the main idea of the topic, discard the irrelevant ideas and organize them in accordance with developing the main idea of the topic. As a result of this process the writer shows them on paper and this is called as the first draft. Then, the writer should revise his paper trying to correct the mistakes and get final draft. There are three different stages in writing, it involves pre writing, while writing and post writing. These three stages are strongly connected to each other and ordered in a sequence. Many L2 students need to use many techniques and strategies at the each stage of the writing process. In this process, pre writing stage includes planning and brainstorming to write. The second stage is called while writing, as it is named, the first draft is written by the students themselves. Finally the last stage is post writing stage. In this stage students revise their papers, focus on grammatical errors, and organization of the paper, ideas and also the use of vocabulary. After the final editing, they will be able to submit their final written work. Most EFL students face with some kind of problems while trying to write. They feel stressed, anxious and they even quit writing. In addition, most of the researches conducted researches on writing displaying that EFL students are quite weak in accomplishing the writing process. There are many reasons of this weakness among the students such as grammatical problems, lack of vocabulary, and demotivation towards writing courses, and unwillingness for the lesson. Considering all these reasons, L2 students experience high levels of apprehension in writing. This kind of apprehension or anxiety can deeply affect the success in acquiring and learning any languages not only in English. As a result, an important question arises; what are the major reasons that lead to EFL students face writing apprehension? This study is aimed to find out the common problems of L2 students in writing by observing EFL Prep school students; also it focuses on the reasons and results of these problems and how they are affected by these problems.

LITERATURE REVIEW

Writing apprehension is defined as a psychological construct related with a student's tendency to avoid certain writing process because of some amount of evaluation. Some teachers blame students because of their poor performances; however some teachers think with a positive attitude; students can write better drafts and also they can enjoy writing. Some of these teachers find it unnecessary to encourage students to write because students do not have adequate skill to be successful in writing. However encouragement and brief feedbacks will be really beneficial for those students. As I have mentioned, some students find writing really enjoyable. They see it as an enjoyable activity because they put their ideas on the paper and this makes them feel better and more confident during the writing process. On the other hand, for the other students this activity will be really difficult because they have difficulty in expressing their ideas by writing and this activity will be unpleasant and fearful one for them (Daly, 1978). First of all, the causes and effects of the writing apprehension should be observed. There are many researches which are conducted to find the main reasons behind the problems that students have while

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writing. Some studies in writing have found out that there are many reasons of writing anxiety ranging from student's ability to write, the amount of preparation the student puts in paper to complete writing task, the fear of being evaluated and also various feedbacks that they receive from their teachers. According to a research, most writing problems stem from the complexity of language and complexity of writing skill (Brunning & Horn, 2000). Most of the students dislike writing and they find it really complicated so this affects their writing performance deeply. The success in writing is strongly related to the self-expression, flow of ideas, self-confidence and enjoyment of L2 students in writing process (Basturkmen&Levis, 2002).There is a relationship between the problems that students cope with and their writing performance. However, we should know whether these problems are the cause or result of poor performance. According to Nave-Benjamin's research (1991), anxious learners display low performance while writing because they are not successful in the acquisition stage however, the more they fail in the acquisition step, the more they feel anxious while writing. In addition, Sparks, Lanchow and Javorsky (2000) claim that student's disability to acquire language causes poor performance and this turns into an anxiety. On the other hand, Horwitz (2000) claims that students' poor performance in writing is not completely related to the acquisition of second language, this can be true to some extent but actually the learner's poor performance is due to their difficulties in retrieving information. The most common cause of apprehension is focus and overemphasis on form; grammar, punctuation, spelling… (Gungle and Taylor, 1989). Students generally have the fear of making mistakes so they believe that while writing they will make many mistakes and this will bring them low grades. Another cause is the evaluation process. Students develop high level of apprehension because of the evaluation process whether it is done by themselves, teachers or peers (Maria, 2006). In order to reduce the apprehension, teachers should give assignments which will not be graded. Negative feedbacks or overuse of criticism on writing paper can be another factor that contributes to the apprehension. Negative comments on the writing draft can lead the students to quit writing. Because too much criticism on the paper can make the students think that they will never be successful in writing and they can get the feeling of failure. Some important researches were conducted in order to find the relationship between anxiety and writing performance. Daud and Abu Kassim (2005) conducted a study. It aimed to observe the relationship between anxiety and writing performance.36 male students participated in the study and it was found that students' anxiety result from their lack of vocabulary knowledge and grammar use. Students were recommended to use English more and efficiently. Different strategies should be applied for the effective vocabulary learning. Moreover, writing teachers need to change the way of teaching and assessing. They require the students to correct the mistakes themselves. Teachers should only give them feedback to show their common mistakes but they should avoid from negative comments and criticism for their drafts. Barbara Kroll, an important figure in writing, states that teachers are really important for this process. She depicts the writing process as a journey of the teacher (Kroll, 2003).Teachers should be dedicated to enhance their students' writing abilities by providing courses or lessons that are aimed to move the students beyond their abilities. According to Kroll, teachers may apply some different writing strategies in order to enable students to acquire success in writing (Kroll, 2003).

PURPOSE

Most of the EFL teachers experience writing apprehension in their classes. Most of the students in their classrooms feel uncomfortable when they attempt to write their drafts. Students generally think that the cause of their anxiety or difficulty is due to the lack of accuracy in grammar, lack of vocabulary and not knowing how to organize their drafts. They have problems when they attempt to write because they are not able to write their introduction, they do not know how to link their sentences and also they have the fear of being evaluated by their teachers. Therefore this study will investigate the major problems they experience while writing and also the factors that contribute to their anxiety. The purpose of this study is to determine the factors that may affect EFL Prep students' attitudes towards writing and the causes of the problems they encounter when they attempt to write.

RESEARCH QUESTIONS

As it is mentioned before, this study aims to identify the major problems that students have while they are writing and also different factors that contribute to their apprehension. While investigating these factors and problems, the following questions need to be answered.

1. What are the main factors that contribute to EFL students' apprehension about writing?
2. Do the students have sufficient interest for the writing lessons?
3. Do the students experience lack of time and organization while attempting to write their drafts?

RESEARCH HYPOTHSES

Under the light of the problem of the current study and the research questions that have been emerged and after studying the literature related to this area, it is hypothesized that:

1. The difficulties that students encounter while writing are due to the lack of accuracy, grammar and target vocabulary of the students.

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2. Students experience lack of interest for writing lessons, most of the time they find the topics and the lessons itself quite boring.
3. Since students have limited time to write, they have problems in brainstorming and arranging their ideas in a logical order to start writing.

METHODS

Subjects

Ten pre intermediate and intermediate levels of students were randomly selected from English Prep school classes and they took part in this research. The students are all Turkish. The reason why ten students from different levels were selected is that we will find out whether they all express the same reasons for their anxiety.

Measurements

These ten participants were interviewed one by one by the researcher. First of all, each student was asked to identify his/her level of English. Then, he or she was asked to order the most important three reasons that he/she thinks directly contribute to the level of writing anxiety or make him or her stressful while writing a draft during the writing lessons. These reasons that participants express will highlight why these students do not like writing, why they do feel nervous and stressful during the writing process.

RESULTS

Ten L2 learners from pre intermediate and intermediate levels were interviewed and the results and analysis as follows:

Participant 1.

The first participant who was interviewed by the researcher expresses why he/she experiences writing anxiety by saying;

1.Writing is a time taking activity and we have limited time.
2.The topics are not interesting and they do not attract my attention.
3.I am not comfortable with my English, and I fear to make mistakes while writing.

Participant 2

1.English is not my mother language, so sometimes I do not know how to express myself.
2.When we write an essay, we have to brainstorm and think about the topic. Nothing comes to my mind.
3.Writing is a real challenge for me.

Participant 3

1.I should follow the grammar rules while writing, but I am afraid I can make a mistake because of my poor grammar.
2.I do not have the ability of writing neither in Turkish nor in English.
3.It is really difficult to connect my ideas while writing.

Participant 4

1.I do not enjoy writing.
2.While we are writing, we have to think about the topic to find ideas and this makes me nervous.
3.Generally, topics do not appeal to me.

Participant 5

1.Writing topics are not creative.
2.I have difficulty in to organize and connect my ideas.
3.Most of the writing lessons are boring, because we only write drafts.

Participant 6

1.It really takes much time to write 5 paragraph essay.
2.Sometimes I am in need of using a word but I do not know that word.
3.Fear of making mistakes.

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Participant 7

1.The amount of vocabulary that we know is not enough, so I use simple words and this makes my writing weak.
2.Sometimes I jump from one idea to another without any connection.
3.I feel anxious because I do not believe that my grammar knowledge is enough to write.

Participant 8

1.We should think before we write, and this is really tiring and we have limited time.
2.Most of the time, I do not like the given topics, that is why I feel nervous.
3.I find difficult to start my writing.

Participant 9

1.Writing in English requires a specific amount of knowledge in English, when I start writing, I find making sentences and express my opinion clearly difficult.
2.Sometimes I have no idea about the topic, so I feel bored.
3.I need to finish my draft in a limited time and this makes me feel nervous.

Participant 10

1.Writing topics are really difficult to find ideas.
2.I make structural mistakes while I am writing, and when my teacher corrects my mistakes, I feel nervous.
3.I like writing whatever comes to my mind, but this is not acceptable. I do not like following a structural order in writing.

ANALYSIS

As it can be seen from the participants' responses, these learners experience a specific amount of anxiety during their writing courses. According to their responses, the most important reasons of this apprehension is the lack of time and difficulty in organization of the ideas; learners have limited time to complete and submit their writings, during that limited time they find it difficult to think about the topic, arrange their ideas and write them down with a structural order. lack of sufficient amount of grammar and vocabulary knowledge; Despite being a pre intermediate student, learners do not count their grammar and vocabulary knowledge that is why they have the fear of making mistakes while writing or they complain about not finding the relevant word or making a completely grammatically correct sentence and lack of interest to the lesson, because leaners find the given writing topic uninteresting, these topic do not appeal to them that is why they have difficulty in collecting ideas that causes their boredom during the lesson.

DISCUSSION AND CONCLUSION

This case study was carried out in order to investigate second language learners' reasons of anxiety in their writing courses. Students were interviewed by the researcher and they were asked to find out students' attitudes in writing lessons. The participants were also asked to give three most important reasons that contribute to the level of writing anxiety during the lesson. According to the findings, it can be said that learners experience apprehension and they often avoid writing; have difficulty expressing their ideas clearly and putting their ideas into written words. In this case study, findings indicate that Prep school students experienced a specific level of apprehension, they find writing courses really difficult and boring so, they do not feel comfortable and relaxed while writing. They find the writing topic difficult and they have difficulty in finding ideas related to that specific topic. The learners claimed that they have fear of writing courses and they are not successful in writing because they are not used to writing, they have self-expression problem and they do not have sufficient knowledge of grammar and vocabulary. The results of this research highlight the importance of EFL learning. English teachers at universities need to be aware of apprehension level of students in writing. They need to use modern techniques and apply useful strategies to teach writing, they need to motivate their students and encourage them to write more and more. English teachers need to allow their students to write in the classrooms, and give their students more control in in-class activities. Students should be motivated by saying that they have enough grammar and vocabulary knowledge to make logical sentences, if not so, they should be encouraged to complete the lacking parts of themselves with hard work and diligence. Students need to be motivated by saying that they can manage this, writing is not a difficult skill, with hard work and confidence students can have better results. If students are given more autonomy over how they learn things and what they do, their confidence will increase and positive attitudes

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towards writing will exist. When all these are considered, it will most probably lead to decrease levels of writing apprehension.

RECOMMENDATIONS FOR FURTHER STUDIES

Writing is not only a cognitive but also an emotional activity; thus the motivation of the learners strongly influence all the steps of the writing directly (McLeod, 1987).The result of our study highlights that most of the EFL students experience writing apprehension. Their anxiety stems from lack of accuracy, self-confidence and their negative attitudes towards writing courses. English teachers need to motivate their students in order to reduce the level of their anxiety. For this reason teachers should make every effort to help their students increase competence through confidence. As you can see, our survey provides evidence for the important reasons of writing apprehension, attitudes towards writing and development of self-expression of the learners. This survey could be regarded as a guide for the future studies .In a future study, it would be interesting to investigate whether students' attitudes or beliefs change and if their performance improves after sufficient training or assistance is provided.

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TABLE 1

TOPIC: WRITING ANXIETY: WHAT ARE THE MAJOR REASONS OF WRITING APPREHESION OF EFL STUDENTS IN WRITING COURSES?

The purpose of this survey is to reveal why the students have difficulties or problems in their writing courses. The main problems might be grammar mistakes, essay organization or differences in their proficiency level of English. They might have difficulties in these fields. This survey is aimed to why most of the students have problems or difficulties in these fields during their writing courses.

Section 1:

1. Gender	:	( ) Male	(+) Female
2. Age	:	_____	
3. Nationality	:	(+) Turkish	( ) Other
4. Your Level	:	_____	

Question: What are the major reasons of writing apprehension of EFL students in writing courses? YOUR RESPONSES WILL BE HIGLY APPRECIATED

PLEASE WRITE THREE REASONS:

1.
2.
3.

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The Specifics Of Logopedic And Special Education Intervention In Children With Psychiatric Diagnosis

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ABSTRACT

Introduction: Communication disorders can be often linked to psychiatric diagnosis in children. The aim of this article is the need to point out the specifics of speech and language intervention in children with psychiatric diagnosis. Methodology: The qualitative analysis of psychiatric disorders and communication disorders was carried out in Psychiatry Hospital in, Czech Republic. Results: The most frequent sequence of psychiatric diagnosis combinations and communication disorders were specific language impairment, specific learning disabilities and communication disorders in intellectual disabilities with ADHD. Conclusion: The need for speech and language therapy and special education intervention in children in the psychiatric hospital setting is indispensable. Partial results of the investigation are related to the issue of specific learning disorders related to the project IGA "Research on selected disorders and differences of communication ability with focus on the specifics of speech and language therapy and special education for hearing impaired assessment and intervention "conducted at the Institute of Special Education Studies Faculty of Education in Palacký University Olomouc, Czech Republic, IGA_PdF_2015_024.

Key words: communication disorders, special education, psychiatry, children, hospital, specific language impairment, specific learning disabilities, ADHD

INTRODUCTION

A stimulating and supporting family background is crucial for general development of the child, especially for speech and language development. Children´s adequate language skills are often an important prerequisite for the child to engage in successful social interaction (Damberga et al., 2014).One of the main distractors of successful development of speech and language is a dysfunctional family. Specific language disorders carry a significant risk of comorbid psychiatric disorders that occur in early childhood and can persist into adulthood (Sundheim and Voeller, 2004) These psychiatric disorders are attention deficit and hyperactivity disorder (ADHD), anxiety disorders, depression and antisocial personality disorder (ibid.). Margari and Buttiglione (2013) state a comorbidity of specific learning disorders with these neuropsychopatologies: Hyperkinetic disorders (ADHD), Anxiety Disorder, Developmental Coordination Disorder, Language disorder and Mood Disorder (diagnosis categorized with respect to WHO ICD-10 classification). Horowitz et al. (2003) in Sundheim and Voeller reported, that children with language problems tended to come from homes characterized by low education, low expressiveness, poverty, high levels of parenting stress and parents who reported worrying about their children´s language problems.

Children with language impairment (e. g. Specific language impairment - SLI) more often have demonstrated for example: aggressive behavior, distractive attention, heightened levels of anxiety, somatic complaints, social withdrawal and excessive shyness in comparison with children without language impairment. (Damberga, 2014). That behaviour causes problems in social areas e.g. functioning in the class that may lead to behaviour disorders.

Specific learning disorder is comorbid with ADHD (Gilmore, 2000 in Scharff, 2012). According to Scharff (2012) the specific learning disorder/ ADHD symptom shows inattention, impulsivity, hyperactivity and frustration at being held back in concentration, expression, perception, processing and retention leading to difficulties in relationships with peers, teachers, siblings and parents. Speech and language delay especially in preschool children with normal hearing may be a pointer toward ADHD (Venkatesh et al., 2012). Students with ADHD and specific learning disorders had poorer reading skills, inferior social skills, and more behaviour problems when compared with their peers with LD alone, and those differences persisted over time (Xin, 2014). El Sady et al.(2013) found out some reasons why the speech and language differ in children with ADHD in comparison with intact children. ADHD represents a group of disorders that affects processes essential in the development of language: attention, thinking, learning process and social interaction of the child. Children with ADHD show lower working memory –it takes longer for children with ADHD to process syntactically complex information. Children with ADHD have

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considerably lower accuracy in comprehension. Speech and language differ in children with ADHD because of its neurological origin - frontal lobe and basal ganglia involvement were claimed to affect both ADHD and language disorders (ibid.). Pokorná (2010) mentions 4 types of reactions to failure among children with specific learning disabilities: the first is a defensive and avoidant mechanisms: the child refuses to cooperate, does not write homework, the child is in opposition to school; the second type is a compensatory mechanism: the child tries to push through misbehaving; the third is aggression and hostility: children resort to aggression, children bully others; And the last one is anxiety : children feel weak, they are closed, sensitive, restless, depressed. Psychosomatic symptoms occur with the last mechanism: vomiting, loss of appetite, sleep disturbances, decreased immunity (ibid.). Based on this mechanism psychiatric disorders could occur. The presence of ADHD has a long-term deleterious effect on academic, social and behavioural outcomes for students with learning disabilities and emotional disturbances (Xin, 2014). Both specific learning disorders and ADHD frequently persist into adulthood, and long-term consequences of their remaining undetected include an increased risk for developing substance abuse addiction and psychiatric disorders such as anxiety disorder, depression and oppositional defiant disorder (Karande et al., 2007)

Within the categorization on impaired speech and language therapy (SLT) we can speak, in case of children with psychiatrics and communication disorders, aboutso called symptomatic speech disorder. According to Vitásková (2013), or Lechta (2002), they are represented by a wide range of manifestations in verbal and non-verbal communication. The aethiological conditions may be variably related to a primary disability, therefore this area of SLT is very closely connected to special education, especially if we consider the contemporary inclusive educational trends. All communication levels (phonetic-phonologic, morphologic-syntactic and lexical-semantic level and the pragmatic level), may be impaired. The causesof the specific symptoms of symptomatic speech disorders may be completely independent of the comorbid health impairment having other impacts on the sphere of verbal or non-verbal manifestations. From the pragmatic perspective,the impaired co-verbal behaviour of the client during expressive oral-verbal production may be even more distractive and intruding than the impaired articulation itself.

THE METHODOLOGICAL DESIGN OF THE STUDY

The goals of this research survey are:

- to analyse the environment, communication disorders in children and psychiatric disorders in children
- to analysespecific logopedic and special education intervention in children with psychiatric disorders
- to verify the association communication disorders and psychiatric disorders.

The research was mainly based on analysis of communication disorders, psychiatric disorders and the anamnestic data of children. The research was conducted on children patients currently hospitalised in Children´s Department in Psychiatric Hospital, Czech Republic. The research sample includes all patients from Section B (here are boys in primary school) and patients from Section A only who attends speech and language therapy. In the Section A there are hospitalised preschool children and girls. The research sample contains 21 children in total, 3 girls and 18 boys. The age of children varies from 3 to 17 years of age.

RESEARCH FINDINGS

Analysis of environment

The children´s department in Psychiatric hospital, Czech Republic was established in 1958. There are 3 sections: A forpre-schoolers and girls (17 beds), B for boys of elementary school age (18 beds) and C for adolescents; boys, girls (20 beds). The reasons for hospitalization are behavioural disorders, auto mutilation, adaptation disorders, affective disorders, anxiety disorders, eating disorders, incipient and developer psychosis. Hospitalization within diagnostic stay could be in case of differential diagnostics of autism spectrum disorders (ASD) and developmental diagnostics of children. The team of professionals is interdisciplinary: medical doctors (senior consultant and medical doctors - psychiatrists), nurses, psychologists, a speech language therapist (SLT), occupational therapist, art therapist and social worker. During the week the child obtain the care of: medical doctor every day, senior consultant medical doctor once a week, nurses full day, teachers in the morning, educator to fulfil the assignment. In the afternoons there are therapies with SLT, psychologist, occupational therapist and art therapist. Late afternoon continues with sports activities and hippo therapy. During free time children play games, have some competitions, trips or other group activities.

The admission is based on the request of doctors (paediatrician, outpatient psychiatrist) When the child comes to Hospital, he or she is assessed by all members of the team, after the medication is adjusting. The child is observed, the therapy is provided. The cooperation with family or children´s home in leadership and education is routine.

When the health condition is stabilised, child could start to go to therapeutic leaves home or Children´s home. After that a dismissal comes. In case of need the health condition is monitored by an outpatient psychiatrist, outpatient psychologist.

Analysis of specifics logopedic and special education intervention and communication disorders in children with psychiatric disorders

The special education and SLT care in the observed institution can be described this way: the assessment is realized in cooperation with an interdisciplinary team. The therapy is provided according to type and severity of communication disorder. Group and individual therapy with preschool children runs in the morning. Individual therapy with school children in severe disorders also takes place in the morning. Individual therapy with school children proceeds in the afternoon. There are some specifics in special education and SLT care. SLT has to cooperate with other members from the interdisciplinary team. The care depends on the character of patients - children come from dysfunctional families, children´s homes and sometimes with syndrome CAN. The SLT needs to know an anamnesis of children and work sensitively with children. Sometimes children should be tired and sleepy according to adjusting medication. The cooperation with the family is limited in the case of dysfunctional families. Often diagnosis in children with psychiatric disorders are: dyslalia, delayed language development (DLD), specific language impairment (SLI), specific learning disabilities (SpLD), communication disorder in intellectual disability (CD in ID), stuttering, cluttering, communication disorder in autism spectrum disorder (CD in ASD).

Association between communication disorders and psychiatric disorders

Table 1: The communication disorders and psychiatric disorders with a brief family anamnesis in children in special education and SLT care, the Section A (diagnosis categorized with respect to WHO ICD-10 classification)

Child	Diagnosis	CD	Family background
E. I.	F 70.1	CD in ID	From 6 months in the Institute of Infant care because of neglect of mother (prostitution), father is imprisoned, now in children home
M. J.	F 90.0	DLD	mother comes from a children's home, the father abused the child, the father is a drug user, now imprisoned, mother raises a child alone
M. T.	F 84.9	CD in ASD	mother with psychiatric burdens, mild intellectually disabled and alcoholic, father has primary education
N. P.	F 70.1	CD in ID	Inconsistent upbringing, divorced family
P. K.	F 70.1	CD in ID	Dissociated family - mother is a prostitute, she mistreated her child, the child now in the care of his father

As seen from Table 1, the communication disorder in intellectual disability is associated logically with the children with intellectual disability. The communication disorder in ASD and delayed language development occurs once in the table 1.The tested children come from dysfunctional families (Table 1).

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Table 2: The communication disorder and psychiatric disorders with a brief family anamnesis for the section B – boys in younger school age

Child	Diagnosis	CD	Family background
M. B.	F 90.1	DLD, SLI	socially deprived child, grew up in uninspiring family, now in children home
T. B.	F 70.1	CD in ID	dissociated family - alcoholism
T. H.	F 91.2	Without CD	child witnessed physical abuse of mother by father, currently in children home
A. H	F 92.8	dyslalia	Intact family
T. H.	F90.0	SpLD	Dissociated family
D. K.	F 70.1	CD in ID	divorce family, inconsistent upbringing
P. K.	F 90.0	DLD, dyslalia	Inconsistent upbringing
P. K.	F 90.1	dyslalia	Dissociated family, child witness of aggressivity of father (alcoholism), disagreement between parents
L. K.	F 92.8	SpLD	Psychiatric anamnesis in mother, child doesn´t know his father, brought up by grandparents from 3 years of age
M. M.	F 70.1	CD in ID	Mother has only Elementary school, child raised without father
J. P.	F 90.1	SpLD	removed from the family for neglect, now lives in children´s home
R. R.	F 90.1	Without CD	He raised only by father and grandmother because of mothers disinterest
P. S.	F 90.0	dyslalia	Mother has only elementary school education, from 6 years of age brought up by grandparents because of mother´sdisinterest
L. S.	F 70.1	CD in ID	Mother only elementary school education, uninspiring, neglectful background, now in care of grandfather
R. Š.	F 90.0	CD in ID	emotionally cool environment, parents are divorced, now in children´s home
L. Z.	F 90.0	SpLD	father in prison, foster family, bullied at school

Table 2 summarizes children with communication disorders and psychiatric disorders with brief family anamnesis too. The children have these communication disorders: delayed language development, specific language impairment, dyslalia, communication disorder in intellectual disability and specific learning disorders. Only two children are without any communication disorders.

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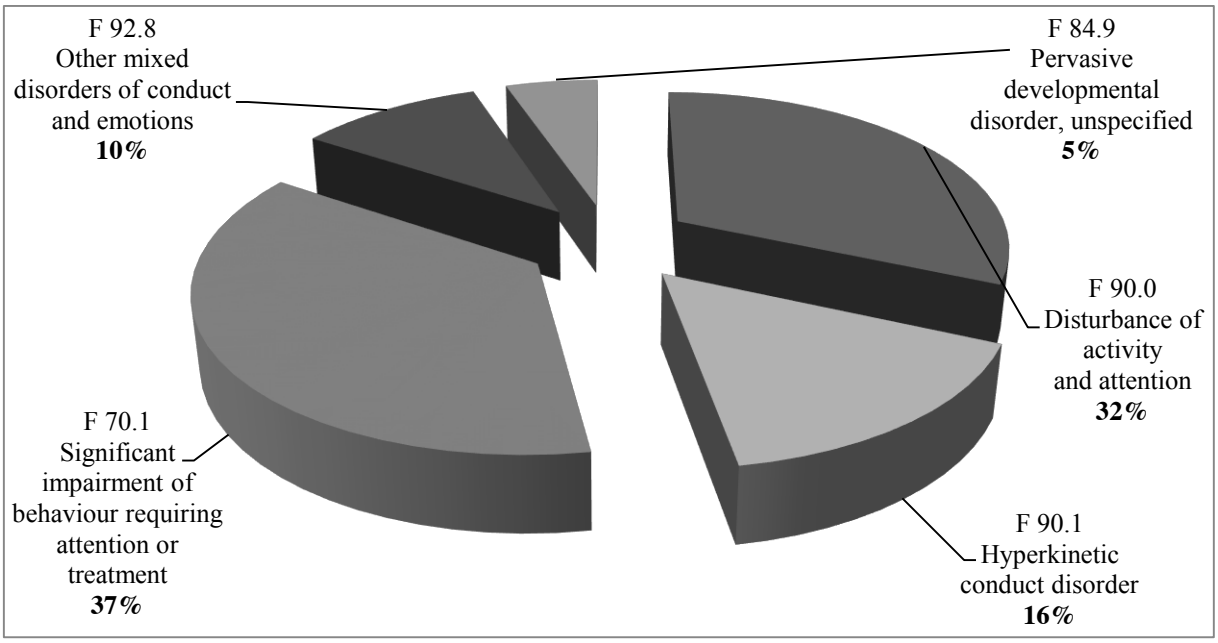
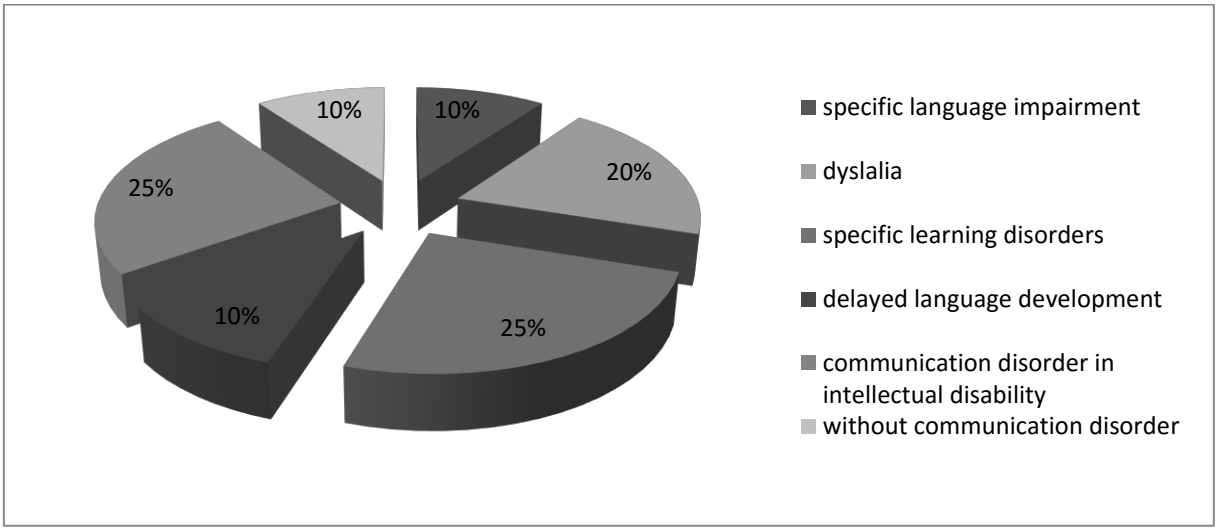


Graph1: Participation of psychiatric disorders in children with communication disorders in sections A and B.

The most frequent diagnosis is Significant impairment of behaviour requiring attention or treatment (37%), next Disturbance of activity and attention (32%) and Hyperkinetic conduct disorder (16%). 10% of children suffer from other mixed disorders of conduct and emotions and 5% of children have been diagnosed with Pervasive developmental disorder, unspecified. (Graph 1)



Graph 2: Participation of communication disorders in patients hospitalised in the section B.

The most frequent communication disorder in children hospitalised in Section B is specific learning disorders and communication disorder in intellectual disability – both 25%, then dyslalia with 20%, next specific language impairment and delayed language development with 10%. Only 10% of patients in Section B have not been diagnosed with any communication disorders.

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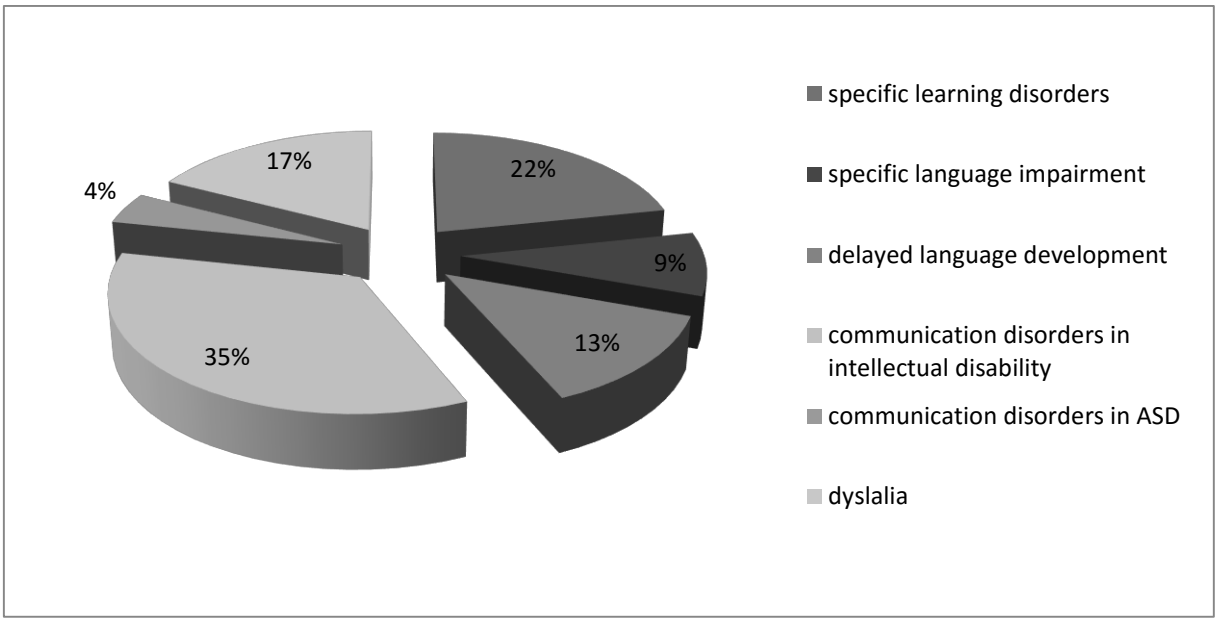
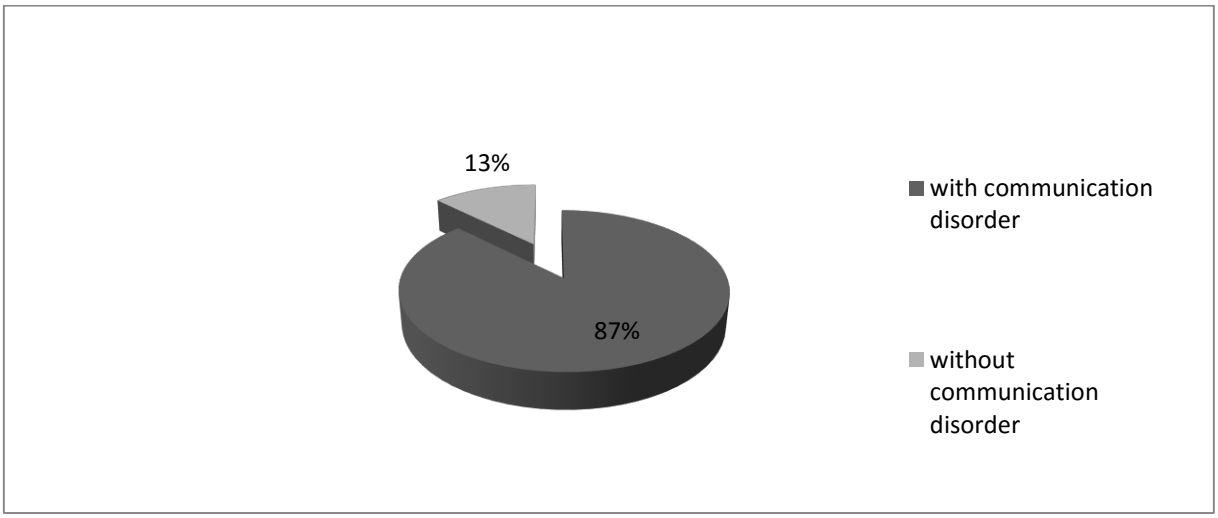


Graph 3: Total participation of communication disorders in Section A and B

Communication disorder in intellectual disability recordes the highest participation (35%), after that are specific learning disorders (22%), dyslalia (17%), delayed language development (13%), specific language impairment (9%).The lowest percentage was recorded with communication disorder in autism spectrum disorder (4%).



Graph 4: Participation of communication disorders in all patient hospitalised in Section B

Communication disorders have been recorded with 87 % of the children in the Section B; only 13% of children are without any communication disorders.

CONCLUSIONS

The analysis of environment, communication disorders, psychiatric disorders, the association communication disorders and psychiatric disorders and specific logopedic and special education intervention in children with psychiatric diagnosis was carried out. To conclude, the professional background of Psychiatric Hospital is interdisciplinary. Child patients come from dysfunctional families. The association between communication disorders and psychiatric disorders is obvious: 87% of primary school children in the Psychiatric Hospital have some communication disorder, the most frequent psychiatric diagnosis was F 70.1- Significant impairment of behaviour requiring attention or treatment, the most frequent communication disorder was communication disorders in intellectual disabilities with the syndrome ADHD. The presence of SLT at workplaces of child psychiatry is indispensable.

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Efficiency Considerations In The Evolution Of The Croatian Higher Education System

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ABSTRACT
As established by the Education Sector Development Plan, one of the main goals in Croatian higher education is to increase the proportion of the population with post-secondary education in the active labour force. In order to achieve this, it is emphasised that the efficiency of the higher education system needs to be improved, primarily by increasing the completion rate and reducing the dropout rates. This research provides the background to this policy through presenting an introduction to the Croatian higher education context whilst examining links to the broader European and OECD debates on higher education reform.

INTRODUCTION

The primary goal of paper is to provide an overview of the Croatian higher education (HE) system and examine its evolution from the 1990s focusing on what the relevant stakeholders have identified to be its main inefficiencies. The issues raised here concerning problems in the HE sector are not unique to Croatia, they are relevant to many countries. The recent substantial increase in student enrolments across Europe has opened debates on issues ranging from student non-completion to the pursuit of more diversity, competition and transparency in the HE system. Jacobs and van der Ploeg (2006) conclude that despite the Bologna agreement, European universities are still in need of fundamental reforms. This is further strengthened by new findings on the importance of higher education for growth in Europe (Aghion et al., 2008), suggesting that an inefficient use of resources will, in consequence, fail to promote growth effectively. Moreover, if extra resources provided for the HE system are used inefficiently this is at the expense of better roads, hospitals, and other deprivations which could be avoided with improved use of educational resources (Barr, 2000).

One of the main goals in Croatian HE is to increase the proportion of the population with post-secondary education in the active labour force. In order to achieve this, it is emphasised that the efficiency of the HE system needs to be improved. This paper provides the background to this policy through presenting an introduction to the Croatian HE whilst examining links to the broader European and OECD debates on HE reform.

THE STRUCTURE OF CROATIAN HIGHER EDUCATION AND ITS EVOLUTION FROM THE 1990S

The goal of higher education policy is to improve educational outcomes. If resources are used inefficiently they will fail to maximise those outcomes: efficiency therefore matters. However, in many OECD countries inefficiencies have increased as enrolment rates in HE more than doubled during the last thirty years, increasing funding problems. Following this expansion there has been in many countries an increase in non-completion rates, lower attainment levels and a longer time taken to complete studies and hence, a surge of policymakers' interest in raising efficiency. The above led some recent reports on the future of the European HE systems to stress the need for its reform and to specifically highlight the previous three areas as problematic (in Aghion et al., 2008; van der Ploeg and Veugelers, 2008a). Nevertheless, as indicated by van der Ploeg and Veugelers (2008b), empirical research in these areas is surprisingly limited and is only beginning to emerge. Although some of the main problems have been identified, there is still no clear understanding of the determinants of a student's progression through their studies. Understanding what fundamental factors affect the behaviour of the main stakeholders in the education production process is of economic importance given the efficiency concerns raised by: this substantial increase in enrolments, the duration of studies and the small proportion of graduates. This makes the research developed here of relevance to policy in many European HE systems, not just the Croatian one.

Similar to other European HE systems, the Croatian HE framework has experienced some remarkable changes since the 1990s. According to the last census data (from 2011) on the education levels of the 15 years and older population in Croatia, 16,4 percent of the population has obtained a tertiary education, whereas 52.6 percent have completed secondary schooling. Furthermore, 21.3 percent have completed primary school education, while 1.7 percent of the population has no completed education. It is often emphasised by Croatian policy makers that the above statistics indicate a need for considerable improvement.

Croatian higher education is divided into a university and a non-university sector. The universities (comprising of faculties, art academies and institutions of higher theological education) offer scientific, professional and artistic programmes and may conduct professional studies, while the polytechnics and schools of professional higher education may only conduct professional studies. In this paper the term higher education institution (HEI) is used

to refer to faculties, art academies, institutions of higher religious education, polytechnics and schools of professional higher learning. Depending on data availability, some of the main statistics are presented for the period from 1990/91 onward.

According to the data by the Croatian Central Bureau of Statistics, at the end of 2013 there were 134 HEIs operating in the country (CBS, 2015). These include 15 polytechnics, 30 schools of professional higher education, 83 faculties and 6 art academies. There are seven public universities (in Zagreb, Split, Rijeka, Osijek, Zadar, Dubrovnik and Pula), and three private ones. In 2012/13 the total number of students enrolled in HE programmes was 159,589; females represented 56.4 percent of the student population which is a noteworthy increase in comparison to their 47.6 percent share in 1991. From the 1990s onward, the number of students enrolled in HE increased more than twofold from 70,781 in 1990/1991 to 159,589 in 2012/2013. The majority of students are enrolled in faculties (78%), followed by polytechnics (14.7%), schools of professional higher education (6%) and art academies (1.2%).

Changes also occurred in the pattern of financing of HE studies. In 1993/94 the cost of the tuition fees for 88.2 percent of the students was borne by the Ministry of education, Science and Sport. However, by 2004/05 the Ministry covered the tuition fees for only 43.3 percent of students. In the same period, the number of students self-financing their studies increased nine-fold for full-time students and seven-fold for part-time students. This indicates a change from a predominantly public pattern of financing the costs of tuition to a mixed model with an increasing share of students bearing the costs. This seems to be a common trend in the developed economies (Adnett, 2006). In 2003 government expenditure per student in Croatia was about 1,795 EUR (MoSES, 2007a).

When comparing the data on government expenditures per student in other countries, it becomes clear that Croatian HEIs have to work with relatively modest financial means. In EU-25 the yearly spending per student is on average 8,700 EUR and in the US this amount is 36,500 EUR (in Aghion et al., 2008). Furthermore, Jacobs and van der Ploeg (2006) emphasise that the total budget for HE has not kept pace with the large increase in enrolment rates worldwide hence, government contribution per student has decreased significantly.

MAIN EFFICIENCY CONSIDERATIONS IN HIGHER EDUCATION

Several issues can be highlighted in this section. One of the more apparent problems is the increasing share of students repeating their first year of studies which expanded from 14.8 percent of the total students enrolled in the first year (in 1991/92) to 26 percent in 2003/04. It may be noticed that in the same time period, the number of students repeating the first year tripled while the number of students enrolled in the first year increased by only 1.7 times. This indicates serious problems in non-completion, especially in the first year of studies, and warrants a more detailed analysis.

Although an increase in the number of students enrolling in the HEIs has been evident in the last 15 years, little is known on those potential students who do not enter the tertiary system. Hence there is no clear picture of the characteristics of those students and one cannot conclude that equal educational opportunities are present at the tertiary level.

Despite the large increase in the population enrolling in some form of tertiary education in Croatia one of the main problems remains the relatively small proportion of students earning a degree. The number of students completing their studies seems to have stagnated, leading to Croatia seriously lagging behind most other countries in the proportion of total graduates in the twenties population (Figure 1).

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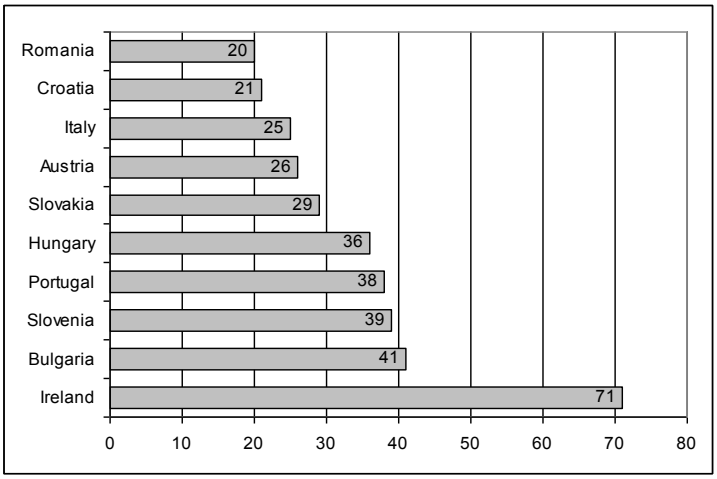
Figure 1: Total graduates (ISCED levels 5-6) per 1,000 of population aged 20-29 in 2001



Source: Eurostat (2003)

To avoid the differences between the definitions of (non)completion rates in various countries and between various authors, the survival rate estimated in the OECD Education at a Glance Report (2007) is used. This survival rate was not available in the more recent reports. This measure is calculated as the ratio of the number of students who graduated from an initial degree during the reference year (for the OECD report the reference academic year was 2003/2004) to the number of new entrants into that degree n years before, where n is the minimum number of years of full-time study required to complete the programme. Given the large differences in education systems across the OECD countries some simple information based on the survival rates is presented next. The average survival rate for 19 OECD countries is around 70 percent i.e. around 30 percent of students do not successfully complete the HE programmes they undertake within the n years (OECD, 2007). However, there is wide variation in survival rates among the countries considered. In Greece and New Zealand less than 60 percent of those who enter tertiary programmes successfully complete them in this time period while in France, Belgium and Japan over 76 percent complete their tertiary programmes. In Croatia, according to this author's calculations of the number of those who completed in 2005 compared to the ones enrolled four years previously for the first time to the first year of studies, the survival rate in the academic year is around 54 percent. In comparison to other OECD countries this would be the lowest rate, suggesting that this is an important issue to address.

Another issue related to student non-completion is the time taken to complete the studies. According to UNESCO estimates, the gross enrolment ratio in tertiary education in Croatia in 2003/04 was 41.3 percent but only two thirds of all students who enrol actually obtain their degrees over a longer period of time (Šošić, 2004). Although university-type studies can be completed within 4 years (6 years for medical programmes), the average length of study is therefore markedly above this. Students who completed their university-type studies (requiring 4 years) in 2004 took on average 6.9 years to finish (Babić et al., 2006).

Along with the efficiency and cost considerations emerging from such a situation, another concern is the relatively late age at which graduates enter the labour market. This problem is not unique to Croatia; Brunello and Winter-Ebmer (2002) report that the median graduation age in 1998 for 4-year HE degrees was 27.4 in Austria and 26.8 in Italy. This longer than necessary time to complete affects available resources and again defers the entry from HE to the labour market, reducing the labour supply and reducing tax revenues (Häkkinen and Uusitalo, 2003).

One of the problems is that Croatia has no developed measures of student attainment. The Ministry does not know how Croatian students perform relative to country-specific learning standards or relative to students from other European countries. In this vein, little is known about the determinants of student attainment in Croatian HE and whether the current structure of educational production matches the needs of the economy. There are no national educational standards or external evaluations of examinations hence there is no feedback from HEIs to the Ministry of Education or the university or even to the HEI itself on the educational practices/outcomes at tertiary level. Until 2007 the country did not participate in international learning assessments, hence there was no information on the outcomes at pre-tertiary level or the relative characteristics of students entering HE. There are no comparisons made through time, between regions and between different types of programmes. Furthermore, there are still no monitored linkages between the HEIs and the labour market and educational outcomes are not analysed or examined, thus, making it difficult to assess the value added to the economy and students.

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CONCLUSION

The goal of this section is to connect the additional information generated in this research with the general discussion by European policy makers of inefficiencies in student attainment, non-completion and the time to complete the studies. There is only a modest amount of information available on the Croatian HE system. This has led to limited analyses and evaluations that lack coherence, and potentially flawed policy proposals. There are no national educational standards or external evaluations of exams, hence there is no feedback from HEIs on the educational practices/outcomes at tertiary level. There is a lack of trained professionals in the area of quality monitoring and assessment (Bajo, 2003). Additionally, the increase in the number of students enrolling at HEIs was not followed by an increase in funding from the state budget. According to MoSES (2007) as a consequence of the above: a substantial number of students are now financing their own studies; there is a heavier teaching load for academic staff, and increased public interest in the quality of HE. In reforms of the legal framework some key issues are being addressed but have not however been effectively implemented namely: the degree of autonomy of HEIs; lump-sum funding; introduction of quality assurance systems, and the development of quality and performance indicators. Furthermore, some of the basic outcomes of the HE system are not currently monitored, examined and analysed and this particularly refers to three outcomes of the educational process: student attainment, non-completion and the time taken to complete studies. It may be argued that all of these outcomes are likely to have an important effect on the efficiency of both the education system and the labour market and hence on national economic development.

Further insights from this research are related to the transparency of the HE system and whether it may be helpful to various stakeholders if an independent authority publishes yearly performance indicators (PIs). The latter can also be designed to provide more information about the HEI to prospective students and may be useful to assure other relevant stakeholders (Ministry, universities, students' parents) that resources are being used efficiently. This is a relatively common practice in the US and the UK HE. Performance indicators are, to some extent, substitutes for price signals in services delivered through public sector (Smith and Naylor, 2004). In the UK, HE PIs give information on access, progression, research, and graduation rates. These indicators could also include non-completion rates, average enrolment durations, average grades, student and academic staff evaluations, the quality of scientific publications, average wages of HEI graduates, evaluations of independent scientific committees and so on. Developing SMART performance indicators to examine the efficiency of the country's education system is a vital step forward in assessing the effectiveness of HE systems and their evolution. If students increasingly vote with their feet this should discipline the HEIs, incentivising them to address their deficiencies. In Croatia, it is the intention of the Ministry of Education to develop PIs for the country's HE system.

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Self-Regulation Of Behaviour In Children Coming From Institution To Foster Families From The Perspective Of Fosters

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ABSTRACT
The article aims to contribute to the reflection on the ongoing process of transformation and deinstitutionalisation of the system of care for vulnerable children in the Czech Republic. This nationwide system change has had its defenders as well as detractors. The presented study focuses on one of the parties involved – the experienced foster mothers. The study includes qualitative research results. The survey was conducted in 2014 using a group interview technique with 12 foster mothers. The aim was to identify, describe and explain the mechanisms of self-regulation of behaviour in children who came to foster families from institutions before the age of 10. Within coding, we designed a paradigmatic model and proceeded to integrate the acquired categories in the grounded theory. The results revealed that children apply external behaviour regulation while the system of self-regulation of their own behaviour fails.

INTRODUCTION

The system of care for vulnerable children in the Czech Republic has been undergoing a process of transformation since 2008. The aim of the transformation is to improve the quality of work with children at risk in order to reach a corresponding level of the developed European countries, especially with regard to the high number of children in institutional care and the lack alternative forms of work with families. The intention is for as many children as possible to grow up in their own or substitute (adoptive or foster) family. The emphasis is also placed on the development of preventive, outpatient and outreach services, due to the fact that the sooner the threat to the family is solved, the less likely the child´s placement in institutional care. If the child already finds itself in institutional care, it is desirable to shorten their stay to a minimum and to return the child to their own or alternative family. Foster care started to professionalise slowly in 2013 based on the Amendment to the Act No. 359/1999 Coll., On the Social and Legal Protection of Children, prioritising short-term, professional care before institution. Children who are legally removed from parental care should therefore move straight into professional foster care for a temporary period of time rather than in institutional care. We noted that at the beginning of 2014 there were 153 professional fosters for a transitional period of time in the CR and at the end of 2014 the number increased to 421 (The Ministry of Labour and Social Affairs). So far the number of registered fosters is inadequate, but it is surely positive that professional foster care is on the increase.

This national reform has its supporters, but also opponents. Simply put, on the one hand there is the Ministry of Labour and Social Affairs as the submitter of the proposal, together with foster parents, NGOs, foundations and the personnel of field and outpatient services. On the other hand, there are workers of the institutional childcare system who complain about its lack of preparedness and who criticise the rapid increase in the number of foster parents, their motives and pay. The institutional care workers often prefer long-term stay of a child in a constant and safe environment of the institution to a frequent change of environment as in the case of repeated returns of the child by foster parents. In the presented study, we do not evaluate the quality of the ongoing reform of the system of care for vulnerable children in the Czech Republic. We base our study on the premise shared by both parties - that no institutional care, regardless of its possible quality, can replace family life. Due to the above, we focus on the effects of institutional care on the child´s behaviour and its self-regulation.

Social sciences focusing on exploring human interaction in specific situations have been paying increased attention in the past fifty years to self-regulation (Carver & Scheier, 1981; Baumeister, Heatherton & Tice, 1994; Baumeister & Heatherton, 1996; Erber, 1996; Aspinwall, 1998; Carver & Scheier, 1998, 1999; Fitzimons, Friesen, Orehek & Kruglanski, 2009). In our paper, we prefer the personal approach of Helus (1992, 2004) and we understand self-regulation as a capability that contributes to conscious application of self-command, leading to a responsible and productive attitude to the world (Helus, 2004). The individual extricates themselves from the dictates of influences that control the individual (regulate from the outside), and make the individual an object of actions of others. Only a self-regulating personality can extricate itself from the environment and society as an individuality, only to enter it consciously, responsibly and productively as an entity (Helus, 2004).

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The research aim was to discover, describe and explain the mechanisms of self-regulation of behaviour in children who come to foster families from institutions at the age of 10 years at the latest. The research was conducted at the end of 2014 using the technique of a group interview with 12 experienced foster mothers. The research problem in a study begins to become clear when the researcher asks: What is the need for this study? (Creswell, 2014). That said, we have established the following **main research question**: *What are the mechanisms of self-regulation of behaviour in children who come from institutions to a foster family?*

THE STUDY

Given the objectives of the research and the research question, we chose a **qualitative research strategy** using the **technique of a group interview**. The group interview is essentially a qualitative data gathering technique that relies on systematic questioning of several individuals (Fontana, Frey, 2005). It has also been used in sociological research (Bogadus, 1926; Thompson & Demerath, 1952; Zuckerman, 1972; Morgan & Spanish, 1984; Fontana & Frey, 1990; Morgan, 2002). Group interviews allowed us to gather quality information from a large number of respondents within a short period of time. These persons immediately evaluated the quality of the information provided and mutually controlled their answers. The described group dynamics contributed to the focus on the most important topics. At the same time, it was easier to determine the occurrence of agreement and disagreement with a particular type of claim within the group. We observed a sequence of several phases in the group interview. First, we clarified the topic and stressed the need for active participation of the members of the group in the discussion. Subsequently, the participants reflected on the topic, and commented on the responses of others or possibly complemented their own answers. At the end, we held a metadiscussion, i.e. a debate about the conducted interviews.

The survey took place at the end of 2014 and 12 informants - foster mothers - participated. For their selection, we chose **a deliberate, qualified choice**. The selection was done based on the judgement of the researchers including the following characteristics: female gender (1), a foster mother with at least two children in foster care while giving birth to and raising at least one own biological child (2), willingness to participate in the research (3) . In accordance with the Loflands (Lofland & Lofland, 1995), we chose a group of foster mothers, with whom we had previously had a positive personal experience (through a joint weekend training programme) and with whom we had established a sense of mutual trust and openness. The participants agreed with audio recording and also a possible disclosure of their opinions in professional studies. At the same time they were guaranteed anonymity, so the study contains no specific names.

FINDINGS

Informants´ claims were seen as a realistic picture of behaviour of children who came from institutions to foster families. The process of self-regulation of behaviour was thus viewed from the perspective of the foster mothers. The group interview with 12 female fosters was literally transcribed and the transcript was subsequently subjected to an analysis using the methodology of **three stages of coding** (Strauss & Corbin, 1990, 1998). The analysed text was divided into units, i.e. semantic units of various sizes - usually words and sentences. Each of the resulting units was assigned a code. **Specialised terms** and **in vivo codes**, i.e. expressions used by the respondents themselves, were used as the codes. During **open coding** we merged some codes, and if necessary we used a more appropriate label. During this analytical activity we abstracted **56 codes, which were then sorted into 12 categories** - see Table 1.

Table 1: List of acquired codes and categories.

CODES (CONCEPTS)*		CATEGORIES (VARIABLES)	CATEGORY QUALITIES AND THEIR DIMENSIONALISATION
1.	The need to be regulated	**Behaviour controlled from outside (1)**	Low rate / High rate
2.	"Is easy to influence"		Problem-free / Problematic
3.	Peer pressure		
4.	Change of behaviour in the presence of adult		
5.	"It is going to be the way it was done in the institution"		
6.	Inability to make own decisions		
7.	"Waits for an order"		
8.	Lack of independence		

9.	"They wait for what they get"		
10.	Insufficient hygiene	**Incapability of self-care (2)**	Little / Significant
11.	Neglect of appearance		Unintentional / Intentional
12.	Not flushing the toilet		
13.	Weather inappropriate clothing		
14.	Situation inappropriate clothing		
15.	Staying up late	**Risk behaviour (3)**	High / Low
16.	TV addiction		Passive / Active
17.	Watching inappropriate films		
18.	Animal cruelty		
19.	Aggression toward people		
20.	Self-destructive behaviour		
21.	Absence of childhood photographs	**Repressed past (4)**	Weak / Strong
22.	Borrowed identity		
23.	Ashamed of the past		
24.	The necessity of training practices	**Coping with the past (5)**	Problem-free / Problematic
25.	"They need to learn what they can"		Easy / Difficult
26.	Responsibility training		
27.	Absence of spontaneity	**Psychological deprivation (6)**	Low rate / High rate
28.	Absence of curiosity		
29.	Attachment to the foster		
30.	"Cuddling in adulthood"		
31.	Enuresis in school age		
32.	Deprivation movements before sleep		
33.	Nightmares		
34.	Refusing physical contact		
35.	"They do not value anything"	**Reliance on sponsorship (7)**	Passive / Active
36.	Absence of relationship to material things		Problem-free / Problematic
37.	"I get all I want"		
38.	"They cannot get from us all they used to get in the children´s home"		
39.	Inflated demands		
40.	Passive problem solving	**Passivity (8)**	Low rate / High rate
41.	Passive and reticent		
42.	"They do not strive for anything"		
43.	"Like a Swiss watch"	**"Programmed children" (9)**	Low rate / High rate
44.	Automated behaviour		
45.	The set structure of the day		
46.	Repressed needs	**Unfulfilled needs (10)**	Low rate / High rate
47.	Inability to articulate needs		
48.	Resignation to the needs		
49.	"They do not cry"	**Inability to express emotions (11)**	Weak / Strong
50.	"They do not give anything from themselves"		
51.	They do not express love		

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52. Dissatisfaction with the position in the family	**Position in the family (12)**	Submissive / Dominant
53. Substitution for parents		Low status / High status
54. Stylization in the role of the absent parent		
55. Failure to accept men in the family		
56. Fear of men		

* In vivo codes in quotation marks.

Using **axial coding,** we then created connections between individual categories. Risk behaviour proved to be the central category in our research focused on the mechanisms of self-regulation of behaviour in children who came from institutions to foster families through the eyes of foster mothers. The acquired codes were categorised and a paradigmatic model was created (see Table 2).

8. **Table 2**: Paradigmatic model.
9.

A	B	C	D	E	F
CAUSAL CONDITIONS	**PHENOMENON** Central category	**CONTEXT**	**INTERVENING (INFLUENCING) CONDITIONS**	**ACTING STRATEGIES AND INTERACTION**	**CONSEQUENCES**
Psychological deprivation (6) Unfulfilled needs (10)	**RISK BEHAVIOUR (3)**	Repressed past (4) Coping with the past (5) Possition in the family (12)	Behaviour controlled from outside (1) Incapability of self-care (2) "Programmed children" (9)	Reliance on sponsorship (7) Passivity (8)	Inability to express emotions (11)

Through axial coding, we created the basis for **selective coding**. After an in-depth data analysis we decided to integrate the findings into **the grounded theory** (Glaser & Strauss, 1967; Glaser, 1978, 1992, 1998; Strauss & Corbin, 1990, 1998, Charmaz 1983, 2003a, 2003b, 2006).

The categories with their dimensions were related to each other as well as to the central category in accordance with the general coding paradigm. **A relational model showing the impact of the institutional social environment on children´s self-regulation of behaviour** from the perspective of foster mothers was created based on the relationships between categories and their dimensions (see Fig. 1). The created theory is to be seen as a set of statements about the relations among variables.

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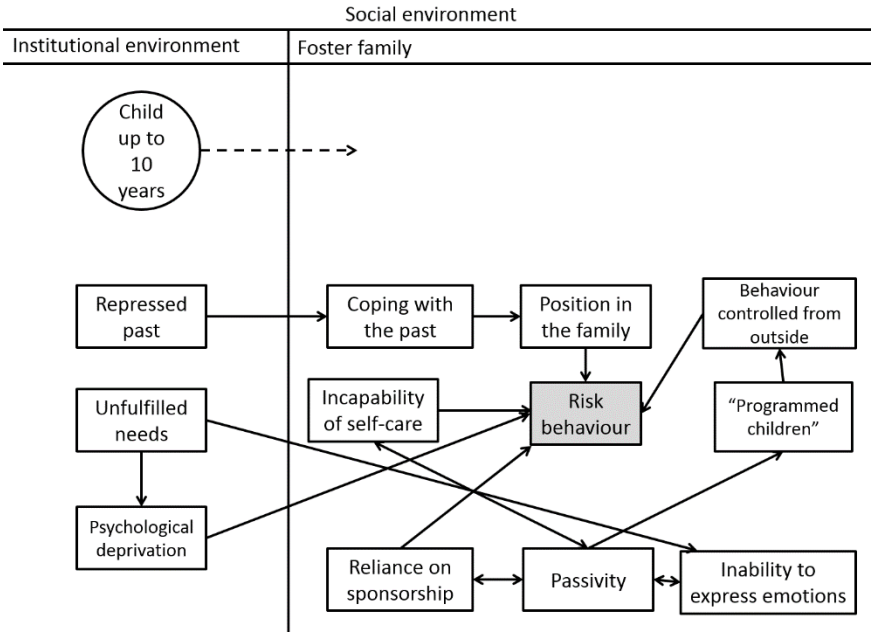

Fig. 1: The influence of institutionalisation on children´s self-regulation of behaviour - a relational model.

CONCLUSIONS

The research results showed that foster mothers identified certain **elements of risk behaviour** and hence **a deficit in its self-regulation** in nearly all children coming into foster families from institutional care. The category of *Risk behaviour* became the central category in the context of our analysis, and all other categories related to it either directly or indirectly (see Table 2).

Our research has confirmed the generally known fact that the absence of a specific emotional object in institutional care leads to unfulfilled social and emotional needs, and subsequently to mental deprivation - *He wouldn´t snuggle, He was only two years, When you hugged him, then maybe for a second or two he snuggled up to you, Then he clenched his teeth and began to pull away, Fighting me. (P9). Would fall asleep with rocking movements for a long time. (P2)*. Children show a rather passive approach to life due to their repressed needs - *It seems to me that it is the suppression of their needs. Those infants that we take into care they do not cry. They are hungry, but they are just sitting there waiting for you to give them something. (P5)* - requiring "control from the outside" - *The twins were "programed children" who wanted absolutely nothing, because they were accustomed to the way they had it lined up at the children´s home, so it had to be just this way (P1).* Passive approach may also be seen in failure to manage self-care and hygiene - *The self-care issues such as wiping one´s bottom. He doesn´t know how, cannot do it. We still have problems with it. Flushing the toilet each time and wiping his bottom. We found out several times that they intentionally neglect themselves, as if denying themselves. (P11)* and reliance on sponsorship - *... that they value absolutely nothing. The first Christmas with us he got a toy car, he played with it for a moment, then climbed onto the piano and jumped on the car. Trampled it. (P3)*. The above-mentioned mechanisms promote not only passivity, but also risk behaviour to which the foster mothers kept coming back during the group discussion - *What struck me even more, those older children, when they came (9 and 10 years), they told me. We want to watch porn in the evening. (P8)*.

We can conclude that the mechanisms of self-regulation of behaviour are underdeveloped in children coming from institutions to foster families. The foster mothers reported that the deficits indicating a low rate of self-regulation of behaviour, in accordance with Helus (1992, 2004), can be found in not assuming responsibility for one´s own behaviour and actions and in the children´ s weak will (*Passivity, Reliance on sponsoring, Incapability of self-care*), inability to plan, which is also linked to one´s relationship to the future (*"Programmed children, Behaviour controlled from outside*), not assuming regulatory stimuli from the external environment, which makes them unable to effectively apply it to themselves (*Repressed past, Coping with the past, Position in the family*), lesser openness to the feedback information about themselves, they have not created an internal model of the external world (*Unfulfilled needs, Psychological deprivation, Inability to express emotions*).

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Measurement Of Teachers' Self-Efficacy And Outcome Expectations For Technology Integration In Education

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ABSTRACT
The main purpose of the study is to measure the reliability and validity of the Motivation for Technology Integration in Education Scale prepared in light of Bandura's Social Cognitive Theory. The participants were 228 high school teachers in Turkey. The results of confirmatory factor analysis revealed that self-efficacy and outcome expectations are related but distinct constructs. Outcome expectations seemed to consist of three dimensions: performance, self-evaluative and social outcome expectations. A moderate relationship between self-efficacy and outcome expectations was found. Based on these results, we believe that researchers can confidently use this scale to measure teachers' motivation for technology integration in education.

Keywords: Technology Integration, self-efficacy, outcome expectations, motivation

INTRODUCTION

Bandura's Social Cognitive Theory (1986) and its two main constructs, self-efficacy and outcome expectations, have received a great deal of attention in the field of educational technology (Wang, Ertmer & Newby, 2004; Tezci, 2011a,2011b; Perkmen & Pamuk,2011). Self-efficacy can be defined as people's beliefs about their ability to accomplish a given task whereas outcome expectations refer to their anticipated outcomes of an action (Bandura, 1997). Teachers who have high educational technology self-efficacy are likely to believe that they have necessary skills to use instructional technology in the classroom. Those who possess positive outcome expectations probably expect that technology will make a positive and remarkable contribution to their teaching practices. Research shows that self-efficacy and outcome expectations are moderately correlated, which suggests that those who have high educational technology self-efficacy tend to expect positive outcomes from using educational technology in the classroom (Sahin, 2008; Perkmen, 2014). Technology integration self-efficacy and outcome expectations are important because they affect technology integration performance (Perkmen & Pamuk, 2011). In other words, teachers who have high self-efficacy and expect positive outcomes from using technology in the classroom tend to use technology in their classroom in proper and effective ways.

Based on social cognitive theory, Wang, Ertmer, & Newby (2004) created a 24-item self-efficacy for technology integration in education scale, which consisted of two dimensions: computer technology capabilities and strategies and external influences of computer technology uses. Niederhauser and Perkmen (2008) developed an intrapersonal technology integration scale which consisted of four constructs: self-efficacy, outcome expectations, interests and intentions. In another validation study conducted by Perkmen and Niederhauser (2010), outcome expectations were proven to be consists of three dimensions: performance, self-evaluative and social outcome expectations. Intrapersonal Technology Integration Scale (Niederhauser & Perkmen, 2008) was translated into Turkish by Sahin (2008) and validated with faculty members. Semiz and Ince (2012) and Cengiz (2014) used these scales to measure pre-service physical education teachers' self-efficacy and outcome expectations beliefs.

Niedehauser and Perkmen (2008) and Wang, Ertmer and Newby (2004) conducted a study with pre-service teachers in the US. In the Sahin's study (2008), the participants were faculty members in Turkey. Semiz and Ince (2012) and Cengiz (2014) conducted their study with pre-service physical education teachers in Turkey. It seems that there is a need to validate these scales with practicing teachers.

The main purpose of the current study is to examine the validity and reliability of the motivation for technology integration in education scale using a sample of high school teachers. Specifically, this study tests goodness of three different models using confirmatory factor analysis. In addition, the teachers' motivation level and relationship between self-efficacy and outcome expectations were examined. The current study addresses three research questions:

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1) Does Motivation for Technology Integration in Education Scale have construct validity?
2) What is the level of teachers' motivation towards technology integration in education?
3) What is the relationship between self-efficacy and outcome expectations?

METHOD

Participants

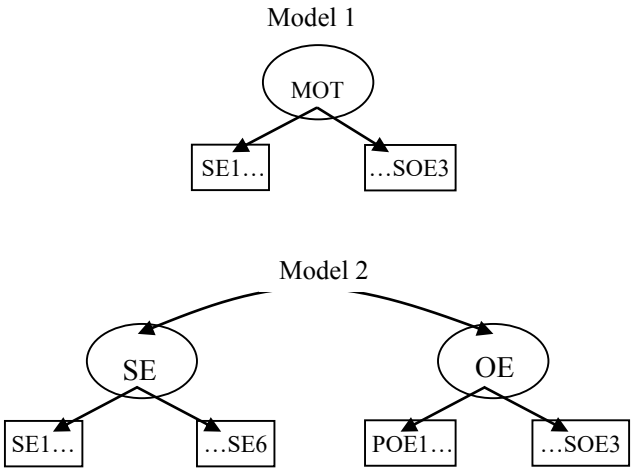
The participants were 228 high schools teachers from 10 different fields in the city of Bursa. Of the participants 128 (56%) were female and 100 (%44) were male. The mean of their teaching experience was 10 years.

Research Instrument

Motivation of Technology Integration in Education Scale was used in this study to measure teachers' self-efficacy (6 items) and outcome expectancy beliefs (9 items) regarding technology integration in education. This scale has been designed on the basis of other technology integration scales (Niederhauser & Perkmen, 2008; 2010) and social cognitive theory. Some of the items regarding self-efficacy included "I feel confident that I have the necessary skills to use instructional technology in the classroom" and "I feel confident that I can help students when they have difficulty using instructional technology in the classroom". Outcome expectations consisted of three dimensions: performance, self-evaluative and social. Each dimension consisted of three items. The stem for all of the outcome expectations were "Using instructional technology in my classroom will likely allow me to….". Some of the items were "… will increase my productivity" and "…will make teaching more exciting".

Data Analysis

Confirmatory factor analysis was used to examine the construct validity of the scale. Based on the theoretical framework, three models were tested. Several fit indices including Chi-Square/df, CFI, NFI, RMSEA and SRMR was utilized to measure goodness of the models. The first model (See Model 1) hypothesizes that all of the items in the scale reflect a unitary factor called motivation of technology integration in education. The second model (See Model 2) suggests that self-efficacy items constitute the first factor called self-efficacy, outcome expectations items constitute the second factor called outcome expectations. Like the second model, the third model (See Model 3) suggests that self-efficacy and outcome expectations are related but distinct factors; however, outcome expectations are made up of three dimensions.



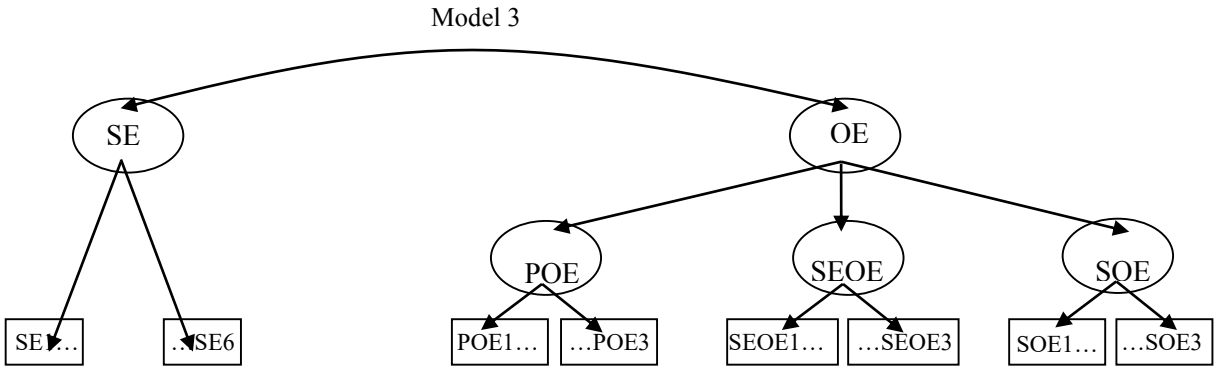


Figure 1: Three Models

FINDINGS

Table 1 illustrates the goodness of the three models. As expected, Model 3 had the highest chi-square/df, RMSEA and SRMR values and the lowest CFI, NFI values. This finding shows that the model 3 fits the data best.

Table 1: Goodness of the Models

Models	Chi-Square/df	CFI	NFI	RMSEA	SRMR
Model1	17.12	.77	.76	.26	.15
Model2	8	.88	.86	.17	.12
Model3	3.04	.95	.94	.09	.09

Factor loadings and error variance for the items in all the models are presented in Table 2. Factor loadings ranged from .51 to .60 in model 1, .71 to .81 in model 2 and model 3 for the self-efficacy items. This finding suggests that self-efficacy items had higher loadings in model 2 and model 3 than model 1. There seems to be no remarkable difference in factor loadings of self-efficacy items in model 2 and model 3.

In contrast to self-efficacy items, outcome expectations items seemed to have the highest factor loadings. Factor loadings ranged from .52 to .80 in model 1, .55 to .86 in model 2, .57 to .90 in model 3 for the outcome expectations items. It is worth noting that social outcome expectations had very high loadings in model 3, which suggests that social outcome expectations is a unique dimension of outcome expectations. In sum, both fit indices and factor loadings provided evidence that self-efficacy and outcome expectations are related but different constructs. Model 3, which suggests that outcome expectations consist of three dimensions seemed to fit data best

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Table 2: Comparing factor loadings and error variances of the three models

	Factor Loadings (Error Variance)		
	Model1	Model2	Model3
Self-Efficacy			
SE1. I feel confident that I have the necessary skills to use instructional technology in the classroom.	.51 (.74)	.71 (.50)	.71 (.50)
SE2. I feel confident that I can help students when they have difficulty with instructional technology.	.64 (.59)	.79 (.38)	.78 (.38)
SE3. It is easy for me find instructional technologies that are relevant to my teaching.	.55 (.70)	.75 (.43)	.75 (.43)
SE4.I can design technology-based classroom activities in my classroom in a way that my students can learn themselves under my guidance.	.53 (.72)	.75 (.44)	.74 (.45)
SE5. I can easily prepare lessons plans in which I am required to use instructional technology.	.57 (.67)	.81 (.35)	.81 (.34)
SE6. I can easily teach classes in which I am required to use instructional technology.	.60 (.64)	.80 (.36)	.80 (.35)
Outcome Expectations			
(Using instructional technology in my classroom is likely to…)			
POE1 …increase the quality of my teaching.	.71 (.49)	.75 (.44)	.75 (.43)
POE2 …make it easier for me to teach.	.73 (.47)	.75 (.43)	.79 (.38)
POE3 …increase my productivity.	.80 (.37)	.86 (.26)	.90 (.18)
SEOE1… make my teaching more satisfying.	.69 (.53)	.74(.45)	.74 (.46)
SEOE2…make my teaching more exciting.	.76 (.42)	.78 (.39)	.75 (.44)
SEOE3…give me a sense of accomplishment.	.60 (.64)	.61 (.62)	.57 (.67)
SOE1 … increase my colleagues' respect of my teaching ability.	.55 (.70)	.58 (.66)	.77 (.41)
SOE2…increase my popularity among my students.	.52 (.73)	.55(.70)	.94 (.12)
SOE3…help me to be seen as competent by my colleagues.	.53 (.72)	.56 (.68)	.88 (.22)

The cronbach alpha values were found to be .90 for self-efficacy, .89 for performance outcome expectations, .72 for self-evaluative outcome expectations, .87 for social outcome expectations and .89 for the overall outcome expectations items. These values showed that the participants' gave consistent responses to the survey items.
Table 3 provides descriptive statistics for the variables used in the current study. The participants' performance outcome expectations were very high, which suggests that they believe that using technology will increase their

teaching performance. Their overall self-efficacy and outcome expectations were high but social outcome expectations were relatively low. These findings suggest that the participants believe that they have sufficient skills and expect positive outcome expectations from using technology; however, they do not seem to attach importance to the other people's recognition if they use technology in their classroom.

Table 3: Descriptive Statistics for all of the Variables

Factor	Min	Max	Mean	SD
Self-efficacy	1	5	3.82	.71
Outcome Expectations	1.22	5	3.90	.69
Performance Outcome Expectations	1	5	4.40	.67
Self-Evaluative Outcome Expectations	1.3	5	4.10	.71
Social Outcome Expectations	1.22	5	3.19	1.06

Table 4 shows the results of correlation analysis. All of the variables were found to be significantly correlated with each other. As expected, self-efficacy and outcome expectations were moderately correlated ($r = .45$, $p < .01$). The lowest correlation was found to be between self-efficacy and social outcome expectations.

Table 4: Correlations among Variables

Variable	1	2	3	4	5
1.SE	-	.45	.50	.47	.25
2. OE		-	.78	.90	.85
3. POE			-	.77	.44
4. SEOE				-	.61
5. SOE					-

Note: All of the correlations were at least significant at .05 level.

DISCUSSION

The main objective of the current study was to examine the reliability of validity of the Motivation for Technology Integration Scale prepared on the basis of Bandura's Social Cognitive Theory and another scale developed by Niederhauser and Perkmen (2008) in the USA. The results, in general, supported the predictions of Social Cognitive Theory. Model 3, which suggests that self-efficacy and outcome expectations are unique constructs and outcome expectations are made up of three dimensions, had the best psychometric properties. These findings are similar to the original study conducted for pre-service teachers in the US (Niederhauser & Perkmen, 2008, 2010). It seems that the technology integration scale is not only suitable for pre-service teachers but also is an instrument help researches to measure the in-service teachers' motivation regarding technology integration in education.

The moderate relationship between technology integration self-efficacy and outcome expectations deserves attention. Although these two constructs seemed to differ, they are conceptually related. Other research studies also found a moderate relationship between these two constructs Niederhauser & Perkmen, 2008, 2010; Perkmen, 2011, Sahin, 2008). It seems that teachers who believe that they have necessary skills to use technology in the classroom tend to expect that their technology will make a positive contribution to their teaching practice.

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