

Analysis of Elementary School Students' Math Skills Based on Various Variables

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ABSTRACT

The purpose of this study is to analyse the math skills of elementary school students based on various variables. This study aims to evaluate the success of students in elementary school math classes during the 2022-2023 academic year according to teacher opinions based on various variables. The data obtained may contribute to researchers working on the evaluation and development process of the elementary school math curriculum. The research will become more concrete and objective with the evaluations of our teachers.

The results of 48 classroom teachers working in the city centre of Ağrı were taken into account. The research results revealed that the math success of students is influenced by various factors according to classroom teachers. It was found that the most significant factor affecting students' math success is their success in other subjects, and that students' gender is not a significant variable in math success. Regarding the professions of parents, the responses of the interviewees were proportional. When looking at success according to families' income levels, a significant difference was observed in students' success. The research concluded that as income levels increase, access to resources becomes easier, leading to increased success. In the residential variable, it was found that students living in the city centre had higher success. According to the educational status of parents, it was found that having educated parents positively affects students' success.

Keywords: Success, Education, Gender, Math, Teacher Opinions

INTRODUCTION

The primary goal of contemporary educational reform efforts is to establish a system that can help students understand and learn mathematics effectively. Creating this system according to the requirements of the era is of utmost importance (Dursun, 2004; Dede, 2004).

"Mathematics is a crucial tool for solving problems in our daily lives. Therefore, among the courses included in the educational programs implemented in schools, mathematics is undoubtedly one of the most important. In today's educational reforms, mathematics education holds a significant place. Establishing a system that can help students understand and learn mathematics is extremely important. Despite its importance, many students do not enjoy mathematics, viewing it as a boring and abstract subject (Aksu, 1985). In this context, several factors can be considered that negatively affect students' perceptions of mathematics. Environmental, cultural, linguistic, gender, socio-economic factors, the city in which they study, the school and class environments, and the educational status of their families can contribute to this negativity."

To make mathematics a comprehensible subject and to ensure students develop a positive attitude towards it, certain points must be considered in mathematics teaching. Several factors can contribute to the perception of mathematics as a difficult subject with which students have negative attitudes. Baykul attributes the low success in mathematics to the lack of relational understanding aids provided to students and the inherently abstract nature of mathematics. Teachers have the responsibility to concretize mathematics, an abstract subject, especially for students in the first and second stages of elementary education (Yazıcı, 2017).

The problem addressed by our research is the evaluation of elementary school students' success in mathematics based on teachers' opinions. Evaluations were made regarding factors affecting success, such as gender, parents' educational status, family's economic and social status, parents' occupations, and place of residence, revealing significant differences among these variables.

According to Baykul (2009), the answer to the question "What is mathematics?" varies depending on why people resort to mathematics, the mathematical topics they use for a specific purpose, their experiences with mathematics, and their interest in it. People's thoughts on mathematics can be grouped in this way. Gözen (2001) defines mathematics as a science that examines the properties of abstract shapes and measurable quantities put forth with definitions and the invariants in their relationships with each other.

Historical Development of Mathematics

Mathematics is one of the oldest sciences in history. In ancient times, mathematics was defined as the science of numbers and shapes. It has a 4500-year history that can be proven with written documents. During this period, the development of mathematics can be divided into five phases. The first phase, from the beginning to the 6th century BC, includes mathematics done in Egypt and Mesopotamia. Mathematics in Egypt involved basic operations with whole and fractional numbers and geometric calculations of some volumes and shapes. At the same time, mathematics in Mesopotamia was slightly more advanced. It was known as a craft-level endeavor aimed at meeting daily needs without reasoning-based proofs.

"The second phase, from the 6th century BC to the 6th century AD, is marked by the influence of Greek mathematics. This period is when mathematics transitioned from a craft to an art form. The most significant contributions to mathematics during this time came from Plato. Greek mathematics is considered modern mathematics."

"The third phase, from the 6th century AD to the late 17th century, is characterized by the mathematics of the Islamic world and India. While some believe that Muslims made original contributions to mathematics, others think otherwise. The contributions of Muslims to mathematics have not been sufficiently researched. Recent studies have shown that the derivative, one of the most important discoveries in mathematics, was found by Sharaf al-Din al-Tusi from Azerbaijan 500 years before Europeans. By the 16th century, Europeans had become the prominent figures in mathematics."

"The fourth phase, from 1700 to 1900, is known as the 'Classical Mathematics Period.' This era is considered the 'Golden Age of Mathematics.' During this time, mathematics became the foundation of all positive sciences. Much of the mathematics taught in universities today is based on the work done during this period."

"The fifth and final phase, from the early 1900s to the present day, is the 'Modern Mathematics Period.' Mathematics has developed rapidly, reached a very high technical level, and the accumulated knowledge is layered. One piece of information does not replace another, making mathematics increasingly complex but equally fascinating. It is a science that can only be pursued with passion."

Mathematics Teaching

Mathematics is one of the oldest sciences in human history. It is defined as the science of numbers and shapes. Key principles in mathematics teaching include conceptual foundations, the principle of prerequisite knowledge, emphasis on key concepts, incorporation of research, and fostering a positive attitude towards mathematics. It is crucial for teachers to create student-centered learning environments that align with the spirit of the constructivist approach to help students overcome difficulties in mathematics and develop positive attitudes and beliefs towards the subject. To establish learning environments that align with the constructivist approach, which is the foundation of the elementary mathematics curriculum, appropriate teaching methods must be used. These methods should actively engage students in the lesson, motivate them, encourage group work, and develop their creativity. Such approaches can change students' attitudes and thoughts about mathematics, which is often perceived as an abstract and daunting subject (Yenilmez & Uygan, 2010).

Success in Mathematics Teaching

In Turkey, many students think that mathematics is difficult and exhibit negative attitudes towards it. This situation begins in elementary school and increases over time. It is crucial to establish conceptual foundations in all topics of mathematics in elementary school. When teaching mathematical concepts to elementary and middle school students, mathematical symbols and language should not be used. Instead, a language suitable for the students' level that they can understand should be used. Without providing a conceptual foundation, one should not immediately proceed to exercises. The quality of teaching is closely related to the teacher.

Factors Affecting Success

A student's success or failure in mathematics cannot be explained by a single factor, such as gender. In addition to gender, many factors such as students' socioeconomic status, culture, language, and the environments of the class and school they attend can influence success. The multitude and variety of factors that can affect students' success

in mathematics necessitate a reevaluation and a healthy redefinition of what it means to be successful or unsuccessful in mathematics. Teachers must help their students experience success in mathematics. It is essential to identify and present teachers' opinions on these factors. By doing so, the root causes of failure in mathematics classes can be identified. Therefore, this study aims to determine mathematics teachers' opinions on the factors that affect students' success in mathematics and the importance of these factors. Numerous internal and external factors affect a student's success. A student's own characteristics (intelligence, personality, gender, interest, etc.), family (parents' educational level, income level, value placed on education, involvement in education, etc.), and school-related factors (school environment, school climate, teacher behaviours, etc.) can all influence success (Güven, 2019).

METHOD

This section provides explanations regarding the research model, the study group, data collection tools, data collection, and the analyses performed on the data.

Research Model

This research is a qualitative study utilizing content analysis. The interview technique was applied by conducting interviews with classroom teachers to ensure the reliability of the research results. Evaluations based on a teacher interview form regarding students' achievement contributed to the reliability of the research.

Purpose of the Research

The purpose of this study is to analyse elementary school students' math skills based on various variables. Specifically, the study aims to evaluate the success of students in elementary school math classes during the 2022-2023 academic year according to teacher opinions based on various variables.

Sub-Purposes of the Research

1. Is there a relationship between the mathematics achievement of classroom students and their gender?
2. Is there a relationship between the mathematics achievement of classroom students and their parents' occupations?
3. Is there a relationship between the mathematics achievement of classroom students and their parents' educational status?
4. Is there a relationship between the mathematics achievement of classroom students and their families' monthly income?
5. Is there a relationship between the mathematics achievement of classroom students and their place of residence?
6. Is there a relationship between the mathematics achievement of classroom students and their achievement in other subjects?

Study Group

The study group consists of 48 classroom teachers selected using a random sampling method, working in the city centre of Ağrı during the 2022-2023 academic year. Demographically, the group includes 40 female teachers and 8 male teachers.

Data Collection Tool

In this study, a semi-structured interview technique was used. The purpose of this technique is to obtain extensive responses from participants and to allow the researcher to examine the relevant area in depth. The interview forms were prepared by reviewing the relevant literature. The questions in the interview forms were arranged to provide the necessary data to achieve the research objectives. The interview form consists of two sections. The first section includes personal information (teachers' gender, marital status, professional seniority, branch, and educational institution), while the second section consists of six questions related to the sub-purposes of the research.

Data Collection and Analysis

Data for the research were obtained using a semi-structured interview form, one of the qualitative data collection techniques. In this study, classroom teachers' opinions were sought to determine whether elementary students' success in mathematics is influenced by various variables, and a "semi-structured interview form" was applied. Data were collected via Google Forms.

The data obtained at the end of the research process were analysed using content analysis. The primary goal of content analysis is to identify concepts and relationships that can explain the collected data. Content analysis is an analysis technique that allows for the objective and systematic examination of verbal and written data (Tavşancıl & Aslan, 2001). The responses given by the participants were grouped into meaningful categories based on the

content of the responses. Similar and different responses were categorized, and positive and negative responses were separately indicated. The table shows similar responses and the number of individuals who provided these responses. The grade levels taught by the classroom teachers are presented in a separate table. The responses to the interview questions given by the teachers were interpreted. The 48 teachers participating in the study were coded as T1, T2, T3, ..., T48 in the table.

FINDINGS

This section includes the personal information of the teachers who participated in the interviews, the information derived from their opinions, and the interpretations of the findings based on the questions prepared according to the sub-purposes. Table 1 explains the grade levels taught by the classroom teachers. Findings related to the research purposes are presented after Table 2.

TABLE 1. Grade Levels Taught by Primary School Teachers

GRADE LEVEL	NUMBER OF TEACHERS	%
1ST CLASS	15	31
2. CLASS	16	33
3RD CLASS	8	17
4TH GRADE	9	19
TOTAL	48	100

As seen in Table 1, 31% of 1st grade teachers, 33% of 2nd grade teachers, 17% of 3rd grade teachers and 19% of 4th grade teachers participated in the interview. It can be seen that first and second grade teachers are in the majority here. 15 first grade, 16 second grade, 8 third grade and 9 fourth grade teachers answered the questions in the interview form.

Findings Regarding the First Sub-Purpose

The teachers' answers to this question were examined and the results are shown in Table 2.

TABLE 2. The first question of the research is "What do you think about whether the mathematics course success of primary school students is related to their gender?"

OPINIONS	PARTICIPANT CODE	NUMBER
It has a relationship	Ö11,Ö12,Ö13,Ö40	4
No relation	Ö1,Ö2,Ö3,Ö5,Ö6,Ö7,Ö8,Ö9,Ö15,Ö32,Ö33,Ö34,Ö35,Ö36,Ö37,Ö38,Ö42,Ö43,Ö44,Ö45,Ö46,Ö47,Ö48,	22
It is successful in both genders	Ö10,Ö39	2
Men are more successful	Ö18,Ö19,Ö20,Ö21, Ö22, Ö23, Ö24, Ö25, Ö26, Ö27, Ö28, Ö29, Ö30,Ö31,	14
Girls are more successful	Ö1,Ö17,	2
It is related to the importance the student attaches to lessons.	Ö14,Ö41	2
Perception is effective and individual	Ö4,Ö16,	2

According to Table 2; Teacher opinions on whether there is a relationship between grade 1 students' mathematics achievements and their gender are as follows. 4 of the teachers said they were in a relationship, 22 of them did not have any relationship, 2 said that both genders were successful, 14 said that boys were more successful, 2 said that girls were more successful, 2 said that it was related to the importance students attach to lessons and 2 of them stated that perception is effective and individual.

Considering these opinions, the dominant opinion is that the success of primary school students in Mathematics has no relationship with their gender. In addition, the second majority of teachers stated that 'Men are more successful'. It has been observed that the other opinions are close to each other and directly proportional. In the answers given, it was observed that the teachers who expressed the opinion that success was or was not related to gender gave short and unclear answers.

Findings Regarding the Second Sub-Purpose

TABLE 3. What do you think about whether grade students' success in mathematics is related to their parents' professions? Teacher opinions regarding the question (Civil Servant, Tradesman, Farmer)

OPINIONS	PARTICIPANT CODE	NUMBER
It has no relation.	Ö4,Ö6,Ö8,Ö24,Ö25,Ö26,Ö32,Ö33,Ö36,Ö37,Ö38,Ö39,Ö40,Ö41,Ö42,Ö46,Ö47,Ö48	18
There is a relationship.	Ö3,Ö7, Ö28,Ö29,Ö30,Ö31,Ö34,Ö35,Ö43,Ö44,Ö45,	11
If both parents are civil servants, they are successful.	Ö1,Ö9,Ö13,Ö19,Ö20,Ö21Ö,22,Ö27	8
If parents are educated, success is higher	Ö12,Ö14,Ö15,Ö16,Ö17,Ö18,Ö23	7
It has an indirect effect	Ö2,Ö5,	2
Environmental stimuli affect intelligence development	Ö10,Ö11,	2

According to Table 3; Teacher opinions on whether grade 1 students' success in Mathematics is related to their parents' professions (Civil Servant, Tradesman, Farmer) are as follows. 18 of the teachers stated that there is no relationship, 11 stated that there is a relationship, 8 stated that if the mother and father are civil servants, they are successful, 7 stated that 'If the mother and father are educated, success is high', 2 stated that it has an indirect effect and 2 stated that it has an indirect effect. They stated that environmental stimuli affect intelligence development. Considering these opinions, the dominant opinion is that primary school students have no relationship with their parents' professions. After this, the other majority opinion is that it is related. Following this, there are opinions that having parents who are civil servants and having educated parents, respectively, is effective in high success. In this section, the short answers given by the majority of teachers to the questions stand out. It has been observed that other opinions are directly proportional to each other.

Findings Regarding the Third Sub-Purpose

TABLE 4. What do you think about whether the success of Grade 4 students in Mathematics is related to the educational status of their parents? Teacher opinions regarding the question

OPINIONS	PARTICIPANT CODE	NUMBER
Successful if parents are educated	Ö1,Ö2,Ö6,Ö7,Ö8, Ö11,Ö13,Ö14,Ö15,Ö16,Ö17,Ö18,Ö19,Ö20,Ö21,Ö22,Ö23,Ö24,Ö25,Ö26,Ö27,Ö28,Ö29,Ö30,Ö31,Ö32,Ö35,Ö36,Ö37,Ö39,Ö41,Ö43,Ö44,Ö45,Ö46,Ö47	36
Parents' education level is not effective	Ö3,Ö4,Ö34,Ö48,	4
The child whose parents are illiterate is successful	Ö40	1
Children of conscious families are successful	Ö9,	1
It is indirectly or partially effective	Ö5,Ö10,Ö12,Ö33Ö38,Ö42	6

According to Table 4; Teacher opinions regarding the question of whether grade students' success in Mathematics is related to their parents' educational status are as follows. 36 of the teachers said that success is achieved if the mother and father are educated, 4 said that the educational status of the mother and father is not effective, 1 said that a child whose mother and father are illiterate is successful, 1 said that children from conscious families are successful, 6 said indirectly. or they expressed their opinion that it was partially effective.

When these views are examined, the dominant view is that success is achieved if the parents are educated. On the other hand, 4 teachers expressed the opinion that "Parents' education level is not effective." It has been observed that indirectly or partially effective teachers do not give short and explanatory answers. Other opinions are common and are directly proportional to each other.

Findings Regarding the Fourth Sub-Purpose

TABLE 5. What do you think about whether the success of Grade 5 students in Mathematics is related to the monthly income of their families? Teacher opinions regarding the question

OPINIONS	PARTICIPANT CODE	NUMBER
Successful if monthly income is high	Ö1,Ö6,Ö7,Ö8,Ö13,Ö20,Ö24,Ö25,Ö26,Ö27,Ö28,Ö32,Ö33,Ö35,Ö48	15
Monthly income is not effective in success	Ö9, Ö10, Ö14, Ö17, Ö18, Ö19, Ö22,Ö31, Ö38, Ö41, Ö42, Ö44, Ö45, Ö46, Ö47	15
Monthly income is effective in success in terms of sending to a private school or course.	Ö3,Ö4,Ö5,Ö12,Ö29,Ö36,Ö37	7
Those with good nutrition patterns are more successful	Ö2,Ö11,Ö15,Ö16,Ö30,Ö34, Ö39,Ö40,Ö43	9
indirect effect	Ö21, Ö23,	2

According to Table 5; Teachers' opinions on whether mathematics course success is related to their families' monthly income are as follows. 15 of the teachers said that success is achieved if the monthly income is high, 15 said that monthly income has no effect, 7 said that monthly income affects success in terms of sending them to a private school or course, 9 said that students with good nutritional habits are more successful, and lastly, 2 of them expressed their opinion in the form of a closed answer that monthly income has an indirect effect.

Considering these opinions, the majority of those who say monthly income is successful are those who say monthly income is not effective in success and those who say monthly income is not effective in success. These are followed by the opinion expressed as 'Monthly income is effective in success in terms of sending to a private school or course'. Here, students' nutritional habits are also referred to and it is underlined that students whose nutrition is regular and good are more successful. Another view is that it is indirect. Therefore, it is seen that opinions are expressed in different but similar rates.

Findings Regarding the Fifth Sub-Purpose

Table 6. What do you think about whether grade students' success in Mathematics is related to their success in other courses? Teacher opinions regarding the question

OPINIONS	PARTICIPANT CODE	NUMBER
Other lessons are effective	Ö1,Ö2,Ö3,Ö4,Ö5,Ö6,Ö8,Ö10,Ö11,Ö13,Ö16,Ö17,Ö19,Ö20,Ö22,Ö23,Ö24,Ö25,Ö26,Ö30,Ö31,Ö32,Ö33,Ö34,Ö35,Ö38,Ö39,Ö40,Ö41,Ö42,Ö43,Ö46,Ö47,Ö48	33
Not effective	Ö7,Ö10,Ö14,Ö15, Ö45,	5
Science lesson is effective	Ö9,Ö12, Ö21,	3
Turkish lesson is effective	Ö36,Ö37,	2
Those with low literacy and comprehension skills have high math success	Ö27,Ö28,Ö29	3
Varies depending on student and innate talent	Ö18,Ö44,	2

According to Table 6; Teacher opinions regarding the question of whether grade students' success in Mathematics is related to their success in other courses are as follows. 33 of the teachers said that the success in other subjects affects the success in the mathematics course, 6 said that the success in other subjects does not affect the success in mathematics course, 3 said that the success in science course is effective on the success in mathematics course, 3 said that success in mathematics course has an effect on the success of those with low literacy and comprehension skills. It is seen that it is high, 2 of them stated that Turkish course success is effective in mathematics course success, and lastly, 2 of them stated that mathematics success varies according to the student and innate ability.

Considering these opinions, the dominant opinion is that the success of other courses is effective in the success of mathematics course. It is possible to say that other opinions are proportionate. The expressions of 5 as 'not effective' are noteworthy in terms of understanding that success is independent of each other.

Findings Regarding the Sixth Sub-Purpose

TABLE 7: What do you think about whether there is a relationship between the mathematics achievement of 7th-grade students and their place of residence? (City center, Town, Village) - Teachers' opinions.

OPINIONS	PARTICIPANT CODE	NUMBER
No relation	Ö24,Ö26,Ö30,Ö32,Ö33,Ö34,Ö35,Ö39,Ö40,Ö41,Ö42,Ö43,Ö44,Ö45,Ö46	15
has a relationship	Ö1,Ö13,Ö14,Ö3,Ö38	5
Those who live in the center are more successful	Ö4,Ö5,Ö10,Ö17,Ö18,Ö19,Ö20,Ö21,Ö22,Ö23,Ö25,Ö27 ,Ö29,Ö31,Ö47, Ö48,	16
Environmentally effective	Ö7,Ö15,Ö36,Ö37,	4
Genetic factors are effective	Ö16,Ö28,Ö37	3
The success of students engaged in agriculture in villages is low	Ö9,Ö11,	2
Related to equal opportunity	Ö2,Ö6,	2
The success of students living in villages is high	Ö12,	1

According to Table 7; Teacher opinions on the question of whether grade students' success in Mathematics is related to their settlements (Center, Town, Village) are as follows. 15 of the teachers said that they did not have any relationship, 5 said that they did, 16 said that those residing in the center were more successful, 4 said that the environment was effective, 3 said that genetic factors had an effect, and 2 said that the success of students engaged in agriculture in villages was low. , 2 of them stated that they were related in terms of equality of opportunity, and finally, 1 teacher stated that the success of students residing in villages was high.

Considering these views, it is possible to say that there are independent, different and even contradictory views. The predominant opinion is that students living in the center are more successful. They stated that because there are more opportunities in the center and children have better access to resources, students residing in villages cannot spare time for agricultural activities. The teachers who stated that it is not related represent another majority. On the other hand, there are teachers who only give short answers such as 'it is effective'. Apart from this, equality of opportunity, environment, genetic factors and students' involvement in agriculture in villages were expressed as other views that affect success. A different answer here is that the success of students living in villages is high. He stated that the reason for this is that children deal with time and numbers in periodic tasks such as irrigation and animal care in villages, and that these and similar numerical activities play a role in the success of children growing up in villages.

CONCLUSION - DISCUSSION AND RECOMMENDATIONS

Results

In this research, we tried to get answers to the problem of our research by using an interview form with classroom teachers working in primary schools in the centre of Samsun, and in this context, the opinions of classroom teachers were consulted. The data obtained from the interviews with the classroom teachers were transcribed and made suitable for statistical analysis in the form of tables. Questions under 6 headings were asked to the classroom teachers who participated in the interview to examine the mathematics skills of primary school students according to various variables. Teachers' opinions were analysed and evaluated in the context of the six questions of our research. As a result of analysing the opinions of the teachers regarding the questions asked, the following results were obtained.

The first question of our research that we posed to the classroom teachers who participated in the interview is whether there is a relationship between the mathematics course success of primary school students and their gender. When the results of the research are examined; 22 of the teachers said that there was no relationship between mathematics course success and gender, 4 said that it was related, 14 said that boys were more successful, 2 said that girls were more successful, 2 said that both genders were successful, and 2 said that students gave their lessons well. and 2 of them stated that perception is effective and individual.

The second question asked to the teachers who participated in the research in the study was whether there was a relationship between the mathematics course success of the primary school students and the professions of their parents. In other words, teachers' opinions were consulted on whether success in the professions of Civil Servant, Tradesman, and Farmer was variable. When the results of the research are examined; 18 of the teachers said that there is no relationship between the success of mathematics lessons and the professions of their parents, 11 said that it is related, 8 said that if the mother and father are civil servants, they are successful, 7 said that the education of the mother and father increases the success, 2 said that it has an indirect effect. and 2 of them stated that environmental stimuli affect intelligence development.

The third question asked to the teachers participating in the study was whether there was a relationship between the mathematics course success of the first grade students and the educational status of their parents. When the results of the research are examined; 36 of the teachers said that success is achieved if the mother and father are educated, 6 said that it is indirectly or partially effective, 4 said that the education level of the mother and father is not effective, 1 said that the child whose mother and father are illiterate is successful, 1 said that it is consciously effective. They stated that the families' children were more successful. In the fourth question asked to the teachers participating in the research, what do you think about whether the success of the students in the Mathematics course is related to the monthly income of their families? is the question. When the answers are examined; 15 of the teachers said that success is achieved if the monthly income is high, 15 said that monthly income has no effect, 9 said that students with good nutrition patterns are more successful, 7 said that monthly income affects success in terms of sending them to a private school or course, and lastly 2 said that monthly income has no effect. They expressed the opinion that monthly income is indirectly effective.

In the fifth question asked to the teachers who participated in the interview in the research, what do you think about whether the mathematics success of the students in the first grade is related to their success in other subjects? is the question. When the results of the research are examined; 33 of the teachers said that success in other subjects affects success in mathematics, 6 said that success in other subjects does not affect success in mathematics, 3 said that success in science does affect success in mathematics, and 3 said that those with low literacy and meaning skills have high success in mathematics. 2 of them stated that Turkish course success is effective in mathematics course success, and finally 2 of them stated that mathematics success varies depending on the student and their innate ability.

The sixth question asked to the teachers participating in the research was whether there is a relationship between the mathematics course success of the primary school students and their settlement areas. In other words, it is about whether residing in the Center, Town or Village affects mathematics achievement. When the results of the research are examined; 16 of the teachers said that those residing in the center are more successful, 15 of them said that they do not have any relationship, 5 of them said that they are related, 4 of them said that the environment is effective, 3 of them said that genetic factors have an effect, and 2 of them said that the success of students who are engaged in agriculture in the villages is low. 2 of them stated that they were related in terms of equality of opportunity and 1 teacher stated that the success of students residing in villages was high.

Considering these views, it is possible to say that there are independent, different and even contradictory views. The predominant opinion is that students living in the center are more successful. They stated that because there are more opportunities in the center and children have better access to resources, students residing in villages cannot spare time for agricultural activities. The teachers who stated that it is not related represent another majority. On the other hand, there are teachers who only give short answers such as 'it is effective'. Apart from this, equality of opportunity, environment, genetic factors and students' involvement in agriculture in villages were expressed as other views that affect success. A different answer here is that the success of students living in villages is high. He stated that the reason for this is that children deal with time and numbers in periodic tasks such as irrigation and animal care in villages, and that these and similar numerical activities play a role in the success of children growing up in villages. Considering all these interview data, we can say that the factors affecting the mathematics course success of primary school students are various. It can be said that material and spiritual reasons come first on the basis of these variables being independent and different from each other. Apart from these, we can say that students' own personality traits and the environment they live in are extremely effective in their success. However, when all these data are taken into consideration, it is not possible to say that these data are the only factors that affect students' mathematics success. Because the short and clear answers given to the questions and the scope of our research do not seem sufficient for this.

Argument

The first question asked to the classroom teachers in the interview form of our research is about whether gender has an effect on mathematics achievement. 14 of the teachers said that boys are more successful than girls in

mathematics. 22 of the teachers stated that gender has no relationship with success. Dede, Dursun (2004)'s study titled "Factors Affecting Students' Achievement in Mathematics: In Terms of Mathematics Teachers' Opinions" stated that the effect of gender on mathematics success varies according to age and education level. At primary and secondary school levels, male students are more successful than female students in terms of mathematics success. He stated that there was no significant difference between the studies showing that in this study, it was seen that similar studies were examined in the context of gender and a result directly proportional to our study was found. We can say that the prevailing opinion is that male students are more successful than female students. However, this does not mean that similar studies in the future will yield the same results. As a result of his study, Bozkurt (2012) found a significant difference between students' test anxiety, mathematics anxiety, general achievement and mathematics achievement and all variables. However, no significant difference was found between mathematics achievement and gender variable.

The second question asked to teachers is whether there is a relationship between the mathematics success of primary school students and their parents' professions (Civil Servant, Tradesman, Farmer). As a result of the research, 18 people stated that the profession of their parents has no effect on their success in mathematics lessons. While 11 people say they are related, the number of people who say 'it can be achieved if the parents are civil servants' is 8. 7 people stated that success is higher if their parents are educated. We see that there are different and similar views here. Savaş et al. (2010) conducted a study investigating how much students are affected by reasons such as study time, family income level, attitude towards mathematics, type of school and attending private teaching institutions, and concluded that students' success in mathematics courses is affected by various positive and negative aspects. Çavuşoğlu (2010) stated that there is a moderately significant relationship between reading comprehension success and problem solving success, and that there is a significant relationship between reading comprehension success and problem solving success in terms of the variables of preschool education level, socio-economic level, gender, and parents' education level. conclusion has been reached. There are significant differences between our research and other studies. In his study, Bayturan (2014) investigated the relationship between secondary school students' academic success in mathematics, their socio-demographic and psycho-social characteristics, and their attitudes towards mathematics. Considering the research findings, it can be seen that the socio-economic level of the family, family attitude, teacher behaviour, mathematics self-perception, aggressive behaviour and attitude towards mathematics have an effect on academic success in mathematics course, but gender, parents' education level, family type; It was determined that activity, sociality, school, and total competence had no effect.

In his study, Duman (2006) determined that the factors affecting the mathematics success of students studying in the 5th grade of primary school (attitude towards the course, learning-teaching methods, teacher, family and learning environments, gender) are the personal factors of students and teachers (gender, seniority, graduated school). investigated whether they differed according to their characteristics. As a result of the research, it was determined that there was no significant difference in terms of the gender variable, which is one of the factors affecting students' academic success in mathematics, but a significant difference was found in terms of the variables "general success of the student, academic success in mathematics course, education level of the parents, monthly income of the family and gender of the teacher".

Dursun and Dede (2004) In this study, the factors affecting the mathematics achievement of primary school students were examined and listed in 10 items. These factors can be listed as gender, parents' education level, socioeconomic level, teacher qualifications, applied teaching strategies and techniques, physical facilities of the school, curriculum, multi-disciplinary study, listening well to the lesson, and mathematical intelligence. The study was created by examining the opinions of 38 teachers working in 8 primary schools in the province of Sivas in the 2001-2002 academic year. As a result, it was concluded that mathematics is a very feared subject among students and the necessity of making arrangements in this direction was emphasized. BOZ, (2018) In this article, it was examined how much the games played in the classroom affected the success of 4th grade primary school students in mathematics. Türkoğlu district of Kahramanmaraş

Suggestions

Mathematics course is seen as a difficult course by the majority of students, and therefore success in mathematics course is lower than other courses. These and similar factors cause students to distance themselves from mathematics lessons and even become afraid of them. It would be an inadequate and incorrect statement to state that there is only one factor behind why mathematics is seen as a course that is feared by the majority of students compared to other courses. The reason is that there are many factors that affect the mathematics success of primary school students. The issue that needs to be examined here is to reveal these factors and offer solutions to them.

Addressing the sub-goals of our research is also important in terms of seeing what causes mathematics success or failure. In this context, paying careful attention to the success of families at lower economic levels or with low income in mathematics lessons and working on providing them with more opportunities to access resources may lead to an increase in the level of success. For these students, both digital and book etc. Necessary support should be provided to develop different methods by providing study opportunities.

Provincial and district directorates of national education organize courses, different in-school activities, educational games, etc. to increase success in mathematics lessons. studies can be done. Therefore, it would be extremely useful to obtain the opinions of mathematics teachers working throughout the province. It is extremely inevitable that the first thing to do is to reveal what these factors are by mathematics teachers and to inform students about the importance of mathematics success by classroom teachers. In addition, the opinions and recommendations of subject teachers should be taken into account regarding the effects of other course achievements, and students should be better guided to increase their mathematics achievements and success levels. Therefore, we can say that such a healthy study can affect mathematics success.

Another issue is that classroom teachers can raise students' awareness about the participation of students with low success in mathematics lessons and ensuring that the student receives more attention can be considered as a different option. In addition, activities to increase students' mathematics achievement can be organized at different times in schools. In other words, it may be possible to increase success by carrying out additional studies.

Families should be warned about prejudiced student behaviours such as difficulty and undesirability of mathematics lessons, and families should be made aware of increasing the success levels of the lessons. Parents should help and support students about the importance and necessity of mathematics. As a result, the awareness of families and students about success increases and a family profile that is more interested in the student may emerge.

As a result, it would be extremely useful for mathematics teachers to carry out a comprehensive study to increase the success of mathematics lessons and to determine whether success in other courses is related to mathematics lessons.

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