SCHOOL PRINCIPALS' ATTITUDES TOWARDS THE USE OF TECHNOLOGY: UNITED ARAB EMIRATES TECHNOLOGY WORKSHOP

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ABSTRACT
The purpose of this study was to measure the effectiveness of an educational technology training workshop. The study investigated the attitudes of the participating school principals toward the use of technology in their schools and their willingness to advocate and support its use after attending the workshop. Also it investigated the advantages and challenges of using computers in schools. A questionnaire was developed and administered to 200 school principals in the United Arab Emirates. Results of this study revealed that principals had positive attitudes toward the use of technology in teaching and they are willing to support the use of technology in their schools. The principals indicated that they had learned from the workshop and that the workshop had motivated them to use new technologies in their schools.

Research studies revealed that school leadership plays a major role in the implementation of technology in schools (Costello, 1997; Tooms, Acomb & McGlothlin, 2004). Other studies discussed how educators in leadership positions impacted the use of technology in the educational system (Golden, 2004; Riedl et al., 1998). Others emphasized the importance of technology training for school administration and stressed the vital need for effective managers of technology in the school system (Bozeman & Spuck, 1991; Hope & Brockmeier, 2002). In a study that focused on the computer knowledge of secondary school principals, Witten and Richardson (1991) found that the majority of principals had little information about the use of computers in managing their schools and as a result recommended a full scale training program for school principals. Beaver (1991) used mailed surveys to identify school leaders' technology competence. The findings of the study indicated that about 73 percent had some or no technological competence, and that 64 percent were at least dissatisfied with their educational technology programs

Rokman and Sloan (1993) provided a description of the Principals' Technology Leadership Training Program (PTLT) that was established by the Indiana Department of Education. The program included an introduction to computer hardware and software. All the participants in the program emphasized the importance of this training for principals: One principal said "I wanted to be more knowledgeable when the teachers talked to me about technology" (p.6); some of them expressed the need to "get up to speed"(p.6). In general, the participants were satisfied with the program. The participants agreed that principals should attend PTLT because "they are the building leaders and will increasingly take responsibility for technology and other innovations in schools"(p.15).

In a study that investigated the technology education needed by principals, Kajs et al. (1999) divided the educational needs into six categories: word processing, presentation, spreadsheet, database, internet and e-mail. Thomas (1999) found that many administrators use e-mail, power point, spreadsheets and data bases programs. He also found that the link between school leadership and educational technology is weak. He suggested that for the leadership to be supportive of the use of technology in schools, a stronger link between the leadership and educational technology should be emphasized. MacNeil & Delafield (1998) indicated that school principals and their assistants realized the importance of learning how to use technology and integrate it into the curriculum. Their study showed that financial resources and time constraint were the major obstacles in integrating technology into the classroom. As a conclusion to their study, they advised school leaders to rise up to the challenge and to provide supportive environments in their schools that facilitate the integration of technology into the curriculum. In a survey of school principals in a developing country, Mentz and Mentz (2002) found that principals realized the importance of computer use by students but their main obstacle in using computers was that their access to computers –even as principals- was limited. Most of them had no computers to use in the classrooms for instruction. Researchers have emphasized the importance of technology training for school leadership since those leaders are the decision makers and the ones who impact the use of technology in their schools. Stegall (1998) surveyed 54 elementary school principals; all of them agreed or strongly agreed that technology is important for their schools; 96 percent of them indicated that they had a major interest in computer technology.

Akababa-Altun (2001) investigated the attitudes of 124 Turkish elementary school principals' toward technology use. He found that principals had positive attitudes toward technology. He found that while those principals showed hesitation to the use technology in their daily work; 69 percent of them indicated that they use computers in their schools; only 27 percent indicated that they use computers outside schools.

The main idea behind this study, which is supported by evidence from previously mentioned research, is that whenever the individuals in leadership positions in schools are involved in the process of introducing technology into their schools, the process becomes easier: By introducing school principals to the different available technology resources and the role of technology in advancing their schools, they will assume an effective role in advocating and supporting the use of technology in their institutions.

The present study also investigated the participants' attitudes toward technology following the workshop. This investigation aimed at answering the following question: Are the participants willing to advocate and support the use of technology in their schools after attending the workshop? A questionnaire was developed and administered to 200 school principals in the United Arab Emirates. The data collected measured the principals' willingness to use educational technology in their schools, their knowledge about technology prior to and after the workshop, and their reflections as well as their ideas regarding the use of the different forms of technology.
The Workshop

The College of Education at the United Arab Emirates University (UAEU) in cooperation with the Ministry of Education and Youth developed a ten-day training program for school directors and principals during the 2003-2004 academic year. This training will eventually be widely available for school teachers in the near future. The program includes a one-day workshop on the subject of technology and its integration into teaching. The objectives of the technology training were:

1. To enable participants to identify the teaching-learning resources available in the community
2. To familiarize participants with the uses of the different teaching-learning resources
3. To introduce participants to the design and production of the different educational materials
4. To integrate educational technology resources into the curriculum.

RESEARCH QUESTIONS
This study aims at answering the following four questions:

1. Do school principals have positive attitudes towards the use of educational technology in their schools?
2. Is the workshop effective in terms of:
    a) Increasing the school principals' knowledge and awareness of the available forms and applications of educational technology?
    b) Promoting positive attitudes that encourage school principals to endorse the use of technology in their schools?
3. What are the advantages of using technology in the schools?
4. What are the major challenges that face the use of technology in the schools?

METHOD
Participants
Two hundred in-service school principals in schools in the United Arab Emirates participated in this study. They attended a one-day technology training workshop on the different available forms of educational technology and their integration into the curriculum. The principals were from different emirates. They came from cities and from rural areas. Their schools ranged from elementary to secondary, some of them came from a joint school (from 1st grade to 12th grade).

Instrument
A questionnaire consisting of 19 items and two open-response items was used in this study. The questionnaire items were developed by the researcher based on the aim of the study. To establish the face validity of the questionnaire, it was reviewed by a panel of four university professors at a major university in the UAE and the questionnaire was modified based on their recommendations. The modified questionnaire contained nineteen 7-point Likert scale items and two open-response items. The questionnaire allowed the participants to rate each of the first 19 items on a seven-point scale ranging from strongly disagree (1) to strongly agree (7) where (4) stood for a neutral response. The other two items were open-ended items about the advantages and the challenges of using technology in the schools.

ANALYSIS

The data collected from the questionnaire items were analyzed using SPSS 12.0 for windows. Descriptive statistics and paired sample t-test were used.

Results and Discussion

The aim of this study was to investigate whether school principals in the United Arab Emirates are willing to advocate and support the use of technology in their schools and their knowledge about educational technology before and after the workshop. To answer these questions the means of all the responses for each questionnaire item were calculated and a paired sample t-test was conducted.

To answer the first question regarding the principals' attitudes towards the use of technology in their schools, results revealed that the principals had positive attitudes toward the use of technology in their schools especially the use of computers and video conferencing. The means for their responses ranged from 5.61 to 6.81 which indicate high level of support for the use of technology, (see Table 1).

Table 1: *Participants' Responses Toward the Use of Technology: Means and Standard Deviations.*

	Question	M	SD
Q1:	I encourage the use of computers in teaching	6.62	0.727
Q2:	I encourage the use of the Internet in teaching	5.88	1.165
Q3:	I encourage the use of video conferencing in teaching	5.61	1.330
Q4:	I encourage the use of overhead projectors in teaching	6.53	0.838
Q5:	I encourage the use of the new educational technologies in teaching	6.81	0.564

The results also indicated that 74% of the principals strongly agree with the use of technology in teaching, 40% of them strongly agree with the use of the Internet in teaching and 35%-88% strongly agree with the use of other forms of technology, (see Table 2). In conclusion, the obtained results might indicate the principals' willingness to support and advocate the use of educational technologies in their schools.

Table 2: *Participants' Responses Toward the Use of Technology in Percentages.*

Response	Q1	Q2	Q3	Q4	Q5
1	0.0	0.0	0.0	0.0	0.0
2	0.0	0.5	1.5	0.5	0.0
3	0.0	3.0	6.0	0.5	0.0
4	3.0	10.5	14.0	1.5	1.0
5	5.5	20.0	22.5	10.0	5.0
6	18.0	26.5	21.0	17.5	6.5
7	73.5	39.5	35.0	70.0	87.5

In regards to the effectiveness of the workshop in increasing principals' knowledge about educational technology and its different forms, the paired sample t-test showed a significant difference between the two means "before and after the workshop", (see Table 3). The results indicated that the participants had an acceptable knowledge about the different educational technologies even before the workshop. The means for their responses ranged from 4.71 to 5.58. The results also showed that the workshop improved their abilities in searching the internet, evaluating educational resources and choosing the appropriate teaching resources that are available in their communities, the means for their responses ranged from 5.72 -6.31.

Table 3: *Participants' Perception of Their Knowledge and Abilities to Use Technology Before and After the Workshop: Means and Paired Sample t-analysis.*

Question	Mean		Standard Deviation		t-value
	Before	After	Before	After	
Knowledge of available new technologies	5.48	6.26	1.240	0.915	-20.735**
Searching the Internet	5.08	5.8	1.493	1.070	-17.060**
Teaching-learning resources selection	5.58	6.31	1.153	0.798	-18.583**
Educational computer software selection	4.96	5.89	1.438	1.060	-23.371**
Internet resources evaluation	4.71	5.72	1.413	1.091	-28.644**
Effective use of the internet	4.89	6.03	1.459	0.948	-24.865**

**p>0.01

In regards to the effectiveness of the workshop in encouraging school principals to endorse the use of technology in their schools, the results indicated that the workshop was successful in achieving its goals, (see Table 4).

Table 4: *Participants' Responses Toward the Effectiveness of the Workshop: Means and Standard Deviations.*

Question	M	SD
Training workshop was useful	6.30	0.897
The workshop encouraged me to use the new technologies in teaching	6.22	0.932

The participants' views of the advantages of using technology in schools varied from a local classroom view to a national view. The local classroom view focused on the excitement and motivation for students that technology brings to the classroom. The national view focused on raising a new generation who is able to use these technologies, exchange experiences and cultures and keep pace with the technological revolution. For those participants, the use of technology for administrative purposes came up at the bottom of the scale, their focus was on the classroom environment, which indicated that improving students' learning and interaction with the teachers was a top priority for them, (see Table 5). As for the advantages of technology in schools, the following were identified by the participants as some of the major advantages

Table 5: *Advantages of Using New Technologies as Identified by Principals in Percentages.*

Advantage	Percentage
Adding the two elements of excitement and motivation for students to learn in an interesting manner.	62.5
keeping pace with the era of progress in education and learning (keeping pace with the technological revolution, exchange experience and cultures, keeping pace with advanced countries)	46.5
Collection of information from different resources and relating them to the present situation, also getting the information easily using the internet.	36
Create a new generation who is able to use the new technologies.	28.5
Increasing the participation and interaction between student and teacher.	26.5
Enriching the educational process and achieving the educational goals.	19.5
Teachers' creativity and competition among them to be innovative.	13.5
Contributing to the enhancement of students' progress and improving their achievements.	11.5
Communicate easily with other schools and exchange information and expertise.	8.5
Saves time and effort.	8.5
Using it in administrative business.	6

In regards to the challenges that face the use of technology in schools, the participants identified teachers' lack of experience in using the modern technologies as the major challenge, next in rank was the lack of adequate technical support. Principals and teachers' views of technology use in the classroom as insignificant were identified as a challenge, but as not major as the previous ones. This might be due to the fact that the number of classrooms that are equipped with different technologies is increasing and these technologies are used by many educators in different schools, (see Table 6)

Table 6: *Challenges of Using New Technologies as Identified by Principals in Percentages.*

Challenge	Percentage
The teachers' lack of experience in using the modern technologies.	39.5
Lack of adequate technical support.	34.5
The unavailability of sufficient technological equipment for use in schools.	14.5
Lack of satisfactory training workshops.	14
The high costs of maintenance.	13.5
The views of some teachers and principals toward technology use in the classroom as insignificant and needless.	7.5
The exaggeration in the use of more than one technological device or application during one lesson which might cause the students to lose focus.	7
The use of the technology as ends rather than means to an end.	5
Extra load on teachers.	1.5
The students' ability to use these technologies is better than their teachers.	0.5

CONCLUSION AND RECOMMENDATIONS FOR FUTURE RESEARCH
The purpose of this study was to investigate the willingness of school principals to advocate and support the use of technology in their schools. Results of this study revealed that principals had positive attitudes toward the use of technology in teaching. Results also showed that not only were the principals willing to support the use of technology in their schools but that they were also willing to improve their knowledge, abilities and skills to facilitate the integration of the technology into the curriculum. Moreover, the results showed that the principals had learned from the workshop and that the workshop had motivated them to use new technologies in their schools. The results indicated that school principals viewed technology as an enhancement to the classroom that will motivate students to learn in an interesting environment. Technology will contribute to the improvement of students' achievement and increase their participation and interaction with their teachers.

When school principals feel comfortable using the technology and realize its possible applications in education then they can help facilitate its incorporation into the curriculum. A positive attitude starting from the school leadership can spread to the teaching faculty in the school and hence to the classroom and the students. Training workshops help raise school principals' awareness and build their confidence in their abilities to use technology and therefore facilitate its adoption as a complementing part in the curriculum.

Further research in this direction and more hands-on training for school principals are needed. Future studies conducted simultaneously with training workshops are recommended to assess the principals' abilities to use and evaluate the different technologies.

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