



Original Research Article

Assessment of educational technology aids (traditional and modern) by Najran university student-teachers

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Using educational technology in the class room is very important for the students because it helps them learn in a better way than thought. Therefore, this study will attempt to identify the extent of the use of educational technology aids among the student-teachers in Najran University during their teaching practice. In addition, the study also seeks to define the effect of the specialty, the academic level and the level in which the students utilizes educational technology during their teaching practice. To achieve the above aim, the researcher randomly selected 122 students. Questionnaires were used as a tool to collect data while descriptive statistics was used to analyze the data collected. The study revealed that the degree of use of educational technology media practiced by Najran student - teachers is moderate. There is significant difference between their use of traditional and modern means of educational technology. Statistical significant difference was also found in the degree of use of educational technology among female students according to specialty variable; however, the difference is not significant when academic level is considered. There is no statistical difference due to the educational level.

Key words: Educational technology, traditional means, modern means, teaching practice, student - teachers, training schools.

INTRODUCTION

Earlier, technology in education was a debatable topic in the society. Everyone had his/her own views on modernizing education and making it technology aided with a huge number of positives and negatives. However, as technology was gradually embraced by educational institutes, they realized the importance of technology in education. Its positives outweighed the negatives and now, with technology education has gotten a whole new meaning that it leaves us with no doubt that our educational systems have been transformed owing to the ever-advancing technology. Technology and education are a great combination if used with the right reason and vision (Saxena, 2014).

Educational technologies has many benefits and importance in the general for student-teachers. These technologies will enable them teach properly and to practice their abilities and educational skills in general and

their abilities to use modern technology specifically as it cannot be avoided. Zieton (2006) mentioned the importance of educational technologies in teaching as follows:

- i. Raising the efficiency and quality of teaching and learning.
- ii. Sensory perception: where illustrations and shapes represent an important role in clarifying the written language of the learner.
- iii. Understanding: where educational technology helps the learner to distinguish between concepts.
- iv. Skills: educational technology in education helps learners improve/develop specific skills like proper pronunciation.

V. Thinking: educational technology plays a major role in training learners to organize their thoughts to solve problems that face them.

Educational technology defined as the use of various types of modern methods, media and materials for increasing the learning and teaching experiences. It deals with the systematic application of the resources of scientific knowledge on the process that each individual has to pass through in order to acquire and use knowledge. Educational technology can improve comprehension in the learning process, as it delivers knowledge in a more lucid and concrete matter (Shah, 2012). Educational technology is the effective use of technological tools in learning. As a concept, it concerns an array of tools such as media, machines and networking hardware, as well as considering theoretical perspectives for its effective application (Richey, 2008).

The definition of Educational technology includes many aspects, but this study aims at the use of one of the important part of educational technology which is the use of traditional and modern means of educational technology among the student-teachers during teaching practice in Najran University. All inspectors agree that teaching practice is an integral component of teacher training in order to apply theory in practice and to achieve the standards required for a qualified teacher. It comes in the last semester in order to give a chance for the students a chance to gain as much of cognitive abilities and skills as they can in both content and educational pedagogy in the training schools (Alenazy, 2012).

Teaching practice is the practical side of teacher training program where the students are teachers-in-training; they are given the opportunity to integrate in a practical way and apply the theoretical knowledge and newly acquired teaching skills to perform teaching jobs inside and outside the classroom. The student- teacher has to be, for example, exposed to all activities of teaching during this training period; plan lessons using educational technology and activities. They also recognize some of the problems related to content and gain the abilities to solve them (Alnagdy, 2008).

Many studies such as have dealt with educational technology and teaching practice. Zohdy (2013) defined the reality of using educational technology innovations in schools in the West Bank and Gaza Strip from teachers' perspective and the obstacles that face them. The study concluded that the degree of using educational technology innovations in Palestinian schools is medium from the perspective of the teachers. While there are obstacles that hinder the use of educational technology innovations as there are not enough devices, besides the inability of the teachers in using them. Alenazy (2012) showed the increasing usage of educational technology by Islamic education teachers in intermediate and higher schools in Kuwaiti schools. Aldeeb (2012) aimed at realizing the extent of practicing educational techniques in the educational process through the opinions of master students in Arabic language for those who do not speak it in Damascus Languages' Center. The study clarified that teachers rarely use educational techniques in all academic courses the low level of technical preparations and also the absence of educational technology courses. Alzbyany

(2008) studied the concerns with realizing how modern techniques are used in teaching mathematics; the extent of using them and the difficulties that prevent teachers from using them. The results showed the scarcity in the existence and usage of modern techniques in intermediate schools. It also showed the difficulties that delay using modern technology. For example, lack of educational appliances as required, in addition to the inability to use modern equipment by teachers. Morsi and Ali (1990) aimed to determine the extent of using educational means by student teachers during teaching practice and the obstacles they face. The study concluded that students do not use educational technology despite their positive attitudes towards them. It also revealed that the tendencies of the students who study the course but do not exercise teaching practice are higher than those who did not study the course.

Problem and importance of the study

The continuous growth in the use of ETM in different aspects of life including education is an obvious one that has transformed our educational systems owing to the ever-advancing technological media which has resulted in the advent of a variety of new concepts and new usages such as e-learning, d-learning and individualized learning. On the other hand, the experience is not similar especially in underdeveloped countries which the study aims to reveal (to what extent do student-teachers of Najran University use educational technology aids; traditional and modern?).

Previous studies in the literature deal with the use of educational technology among students and teachers however, none deals with the use of educational technology among student-teachers during teaching practice and here lies the importance of this study. This study therefore aims to identify the degree of use of educational technology by student- teachers of Najran University during their teaching practice, and also to identify the effect of some other factors like specialty, academic level and educational level in training schools. Furthermore, the study aims to provide suggestions and recommendations that may contribute to the improvement of the use of educational technology among the students of Najran University. Thus the research questions are:

1. What is the degree of the use of educational technologies among Najran University students during the teaching practice?

i. What is the degree of use of (traditional and modern means of education) among Najran University student-teachers during teaching practice?

ii. Are there any statistical significant differences ($\alpha \leq 0.05$) in the degree of use of traditional and modern means of education among Najran University student-teachers during teaching practice?

iii. Are there any significant differences ($\alpha \leq 0.05$) according to specialty, academic level and the educational level in training schools) on the use of educational technologies during the teaching practice?

Table 1. Description of the sample

Variable	Independent variable	No.	Percentage
Educational level of training schools	Intermediate	63	77
	Secondary	37	45
Academic level	Pass	4	5
	Good	37	45
	Very good	27	33
	Excellent	32	39
Specialty	Math	15	19
	Science	26	31
	English	22	27
	Arabic	24	29
	Home economics	13	16

Objectives of the study

The objectives of this study are: to identify the level of use of educational technology aids (traditional and modern) among the student-teachers of Najran University during teaching practice; to identify (using statistical methods) if there is significant differences between the use of traditional and modern means of educational technology among the trainees; to achieve recommend and suggest that may help in better utilization of educational technology in the future by students of Najran University during teaching practice as well as to help improve the courses contents related to educational technology at the Universities.

METHODOLOGY

The study employed descriptive statistics due to its suitability as it depends on studying the reality of the phenomenon and accurately describing it besides expressing it qualitatively or quantitatively

Population and sample

The population of the study (Table 1) was level eighth students (368) who enrolled in the first semester (teaching practice course) in Najran University in year 2014 in Faculties of Education, Science and Arts with specializations in Science, Mathematics, Home Economics, English and Arabic. The random sample student-teachers chosen from all the specializations were 160 students making a total sample of 122 respondents.

Data collection

The study data was collected through questionnaire which was developed by the researcher according to her experience in teaching practice and educational technology in order to find out the use of educational technology media

by female Najran University students. The tool consists of two parts: the first part being the traditional means of educational technology contained 17 items to identify the degree of usage by the students during the teaching practice. The second part was about the modern means of educational technology consisting of three sub-parts; computer (6 items), Internet (6 items), and other innovations (11 items). To check the validity of the tool, it was presented to eight arbitrators with specializations in educational techniques, teaching methods and psychology and was modified according to their instructions. Cronbach's alpha (0.89) was used to prove the tool's reliability and consistency.

Study procedures

After verifying the tool's validity and reliability, 160 questionnaires were administered to student-teachers in different schools in Najran during the first semester of the 2014 academic year. 149 questionnaires were completed and returned. Eventually, only 122 questionnaires were accepted and analyzed using the (SPSS) program. Averages, percentages and standard deviations were used to measure the degree of the use of educational technology. T- test was used to compare the average degree of use of traditional and technology innovations in education. One way ANOVA test was used to identify the effect of the independent variables (specialty, academic level and educational level of training schools). The dependent variable is the degree of use of educational technology that is, 'the traditional and modern' among the trainees during the teaching practice.

RESULTS AND DISCUSSION

What is the degree of use of (traditional and the modern means of education) among Najran University student-teachers during teaching practice?

The standard degree of use of educational technology is

Table 2. The estimation of the means value

very high	high	Medium	Low	very Low
5 - 4.21	4.2 - 3.41	3.4 - 2.61	2.6 - 1.81	1.8-1

explained in Table 2. Table 3 shows that degree of application of traditional media of education for Najran University student trainees is medium with a mean of 3.100. Students agreed that teaching aids are mostly used (very high degree) in books with an average of 4.32 followed by worksheets (3.89), Blackboards (3.77) and posters 3.58. The researcher attributes the wide use of the traditional educational technology means in the Najran region to their availability which encourages their use more than others. Unfortunately this result does not fit with what is expected especially with current trend/revolution in information and communication technology (ICT) in the present era of globalization. This result is consistent with Kensara and Attar (2005).

Table 4 shows the score of using modern educational media by trainees. The highest value is obtained for the computer (3.46), followed by the internet (2.72) and finally, other educational technology innovations (2.09). The results indicate that the use of educational modern media by trainees is medium with an average of 2.61. This result agrees with Zohdi (2013). It was expected from the student-teachers to depend heavily on educational technology means during the teaching practice than what the results depicts because of the improved communication and teaching practice experience educational technology means provides. However, this low dependence may be explained by the nature of the experience which is the first time for the trainees to practice teaching with the use of educational technologies in a real classroom situation and being a test (examination) period for the student to display their previous experiences in using educational technology, the experience is usually accompanied by a mixture of fear and anxiety which affects performance. Although the global trend is towards universal access to technology, particularly the internet, there are still many areas where internet access is non-existent or extremely limited in Saudi Arabia especially in some provinces in the Najran Region. This makes school to depend mainly on the traditional means of education.

Are there any statistical significant differences at the level ($\alpha \leq 0.05$) in the degree of use of the traditional and the modern aids of education among Najran University student-teachers during teaching practice?

Table 5 shows that there is statistical significant difference between the degree of use of traditional and modern media of education (t-value = 5.295) despite the fact that the contents of the courses of educational technology focus mainly on students training in educational technology innovations more than on the traditional means of

educational technology. This result shows that traditional means of teaching are still used extensively in schools and the trainees are more accustomed to it than educational technology innovations, in addition to its availability, cost (cheap) and easy of use.

Are there any statistical significant differences at the level ($\alpha \leq 0.05$) according to specialty, academic level and the educational level of training schools) on the use of educational technology media during teaching practice?

Table 6 shows the differences in the use of educational technology media according to specialization ($\alpha \leq 0.05$). In order to find out the source of these differences, the study employed the post hoc test (LSD). The results showed that there are significant differences in the degree of using educational technology media according to specialty.

Table 7 explains the source of the differences in the use of educational technology means due to specialization. Home Economics Department students showed the highest mean value of 3.000 which may be due to the nature of the content of its courses which is rich with different kinds of educational technology means especially from local materials; followed by Science with an average score of 2.938 which is no surprise because the nature of the scientific content is also rich with many types of educational technology means besides its heavy reliance on the use of laboratories which constitutes an important component of educational technology means; while Arabic specialty had the lowest value which can be attributed to the misconception among female students about the use of educational technology techniques in teaching the Arabic language. Educational technology is necessary for all subjects however; Table 6 has shown that there are significant differences in the degree of using it according to specialty.

Table 8 shows that there are no significant differences in the degree of use of educational technology media among student-teachers according to academic level that is, the academic level of the students has no effect on the degree of use of educational technology means during teaching practice. This may be due to the fact that the students during the theoretical study of educational technology courses in the college were put in mixed groups without discrimination in their academic level.

Table 9 shows that there is significant difference ($\alpha \leq 0.05$) in the degree of use of educational technology media among the trainees in intermediate and secondary schools with a higher significant value for intermediate schools. This result indicates that students who trained in

Table 3. Mean and standard deviation for the use of traditional aids of education

Variable	Mean	Standard deviation	Degree of use
Educational panels such as (flannel)	2.943	1.377	Medium
Blackboards	3.779	0.951	High
School books	4.320	0.715	Very high
Charts and forms	3.311	1.373	Medium
Photographs	2.975	1.214	Medium
Worksheets	3.984	0.991	High
Posters	3.582	0.923	High
School broadcasting	3.377	1.328	Medium
Slides projector	2.443	1.125	Low
Educational packages	2.467	1.1292	Low
Models	3.016	1.785	Medium
Real stuff and samples	3.033	1.586	Medium
Graphs	3.434	1.223	High
Exhibitions and museums	2.623	1.592	Medium
Drawing aids for blackboard	3.172	1.565	Medium
Opaque projector	2.393	1.927	Low
Overhead projector	1.861	0.947	Low
Total	3.100	0.310	Medium

Table 4. Mean and standard deviation for the use of modern aids of educational technology

Variable	Mean	Standard deviation	Degree of use
Use of computer			
Presentation of educational programs	3.410	1.162	High
Planning lessons	3.828	0.977	High
Evaluate learners	2.582	1.156	Low
Produce drawings	3.713	1.024	High
Designing exams	4.123	1.057	High
Improve presentations.	3.156	1.273	Medium
Total	3.469	0.720	High
Internet			
Using web sites for information to enrich lessons	3.336	1.028	Medium mm
Create website for subjects	2.574	1.028	Low
Search sites to follow up developments in the specialty	3.295	1.066	Medium
Download video clips related to the lessons	3.197	1.197	Medium
Using e- mail for communication with students	1.893	0.969	Low
Using social sites like Facebook and Twitter to communicate with headmaster and students	2.041	1.131	Low
Total	2.723	0.371	Medium
Other innovations			
E- learning	2.311	1.107	Low
E- book	1.975	1.132	Low
Smart board	2.311	1.483	Low
Lecture maker and course lab	2.041	0.948	Low
Multi media	2.402	1.197	Low
Video conferences	1.762	0.882	Weak
Mobile learning	1.852	0.810	Low
Interactive video	2.451	1.143	Low
Digital camera	1.451	0.728	Weak
Educational satellite channels	2.541	1.151	Low
Photoshop shop for educational designs	1.975	1.016	Low
Total	2.098	0.731	Low
	2.618	0.742	Medium

intermediate schools use educational technology means more than those who trained in high schools.

Therefore, we can conclude that intermediate schools are considered to be the largest field where educational

Table 5. The differences between the degrees of use of the traditional and modern means

Technique	Df	Mean	Standard deviation	T- test	Sig.
Traditional	121	3.009	0.565	5.295	0.000
modern		2.618	0.555		

Table 6. ANOVA test results according to specialty

	Sum of squares	df	Mean Square	F	Sig.
Between groups	3.580	4	0.895	3.862	0.006
Within Groups	27.114	117	0.232		
Total	30.693	121	1.137		

Table 7. (LSD) test results to clarify the source of differences according to specialty

specialties	source	Mean	standard deviations	Sig level	Std. Error
Science	Math	2.723	0.448	0.133	-0.215
English				0.203	-0.182
Arabic				0.199	0.184
Home Economics				0.093	-0.277
Math	Science	2.938	0.412	0.133	0.215
English				0.795	0.033
Arabic				*0.002	0.399
Home Economics				0.681	-0.062
Math	English	2.905	0.483	0.203	0.182
science				0.795	-0.033
Arabic				*0.005	0.366
Home Economics				0.529	-0.095
Math	Arabic	2.540	0.483	0.199	-0.184
science				*0.002	-0.399
English				*0.005	-0.366
Home Economics				*0.003	-0.460
Math	Home Economics	3.000	0.615	0.093	0.277
science				0.681	0.062
English				0.529	0.095
Arabic				*0.003	0.460

Table 8. ANOVA test results according to academic level

	Sum of squares	df	Mean square	F	Sig.
Between groups	0.705	3.000	0.235	0.925	0.431
Within groups	29.988	118.000	0.254		
Total	30.693	121.000			

technology means were used which agrees with Kensara and Attar (2005).

CONCLUSIONS AND RECOMMENDATIONS

In the light of the study goals and results, the researcher recommends the following:

1. The content of educational technology courses for undergraduates must account for integration between educational technology innovations and the traditional ones and not to focus on either.

2. Training on educational devices should be available in colleges to assist the students to practice so as to be able to achieve the desired outcomes from teaching practice.

3. The digital library at Najran University should be well

equipped for students to use during the total duration of the course.

4. Academic supervisors in the university should encourage students to use educational technology (concepts, methods, and media).

The purpose of this study was to determine the degree of use of educational technology among female student-teachers in Najran university during their teaching practice. The findings indicate that the level of use of educational technology (innovations and traditional) by the student teachers during teaching practice as average. There are significant differences in the use of traditional educational technology and the innovation educational technology means to the benefits of the former. There are significant differences in the use of educational technology among students during teaching practice according to: specialization and educational levels of schools, but there is no significant difference according to the academic level of the trainees.

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