Investigate the Self-efficacy and Attitudes of Teachers towards e-learning in Saudi Arabia

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Abstract— with the emergence of computer technology in the field of education, creating and sustaining change in universities learning style can only be accomplished if those universities successfully move from one point of equilibrium to another. This movement can be facilitated by changing teachers' attitudes towards e-learning tools. Therefore, this paper intends to investigate the teachers' attitudes and self-efficacy towards using e-learning for teaching undergraduate students in Saudi Universities. This research used a survey method design. The target population for this study consisted of 30 lecturers selected from different universities in Saudi Arabia. The result revealed that there is no significant difference in the teacher candidates' attitudes and self-efficacy toward e-learning differ by gender and age group.

Index Terms—Attitude, Self-efficacy, e-learning, virtual learning environment, teacher learning

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1 INTRODUCTION

E LEARNING is the acquisition, generation and transfer of knowledge using online facilities and employ traditional teaching and learning methods as well as technology specific techniques (Rosenberg & ebrary, 2001). The reason of using e-learning can simply classified to a) e-learning provides all types of learners with the useful materials and knowledge for their learning b) e-learning gives a flexibility by saving time, cost, and efforts for learners c) obtaining for learners to attend their class in anytime and anywhere by provide them with full accessing and availability 24 hours a day, and seven days a week d) generate different models and learning features for types of learners with useful hyperlinks and learning sites on the semantic web e) enhance the learners ability for developing their skills and knowledge (Bates, 2005; Welsh, Wanberg, Brown, & Simmering, 2003).

Self-efficacy is identified by Ormrod (2000) as a belief that one is capable of performing in a certain manner to attain certain goals. It is a belief that one has the capabilities to execute the courses of actions required to manage prospective situations. Moreover, Steinberg and Morris (2001) described the self-efficacy in other ways as the concept has evolved in the literature and in society: as the sense of belief that one's actions have an effect on the environment.

While the attitude, on the other hand, together with its formation, transformation, causing transformation or their measurement, is a topic relevant to social psychology. Attitudes can be defined as a learned predisposition to respond in a consistently favorable or unfavorable manner with respect to a given object (Robinson, Stimpson, Huefner, & Hunt, 1991). They are relatively less stable than personality traits and can be changed both across time and across situations in virtue of individual's interaction with the environment (Smith, Caputi, & Rawstorne, 2000).

Education is considered one of the first and most important efforts associated with the development of modern Saudi Arabia. "Since 1932, the founding of the kingdom of Saudi Arabia expanded the responsibilities of the direction of education in terms of territory" (Al-Salloom, 1995).

According to Saleh (1986) "More understanding and recognition should be given to educational systems, social studies curricula, and educational philosophies other than Saudi Arabia's own since human development is a continuous process and progress depends upon interaction among citizens and cultures. Knowledge of new social studies approaches can make a significant contribution to global cooperation, understanding and interdependence among nations" (p.3). Education has been a priority for the government since the establishment of the Saudi-Arabia. In terms of technology integration in education, Saudi Arabia realized the importance of the e-learning applications as a mean to keep up with the outer world. The government of Saudi Arabia has given a top priority to have a modern computer services to facilitate the use of e-learning in the Saudi universities.

Also, the government launched an educational program to place a computer center and introduce computer courses in all the schools in the Kingdom (Albakhaity, 2001). Although the Internet has widely spread in Saudi Arabia, because it becomes the worlds primary means of communication, searching and obtaining information and knowledge. The Kingdom now stands among the top five Arab countries in terms of Internet growth.

The Ministry of Education incorporated technologies in schools to be used by teachers and students for education purposes include, to increase student and teacher productivity, enhance integration of curriculum, make instructional materials accessible from anytime and anywhere by using Internet and Web technologies, enable teachers to become more effective, to enhance students achievement and to prepare

students for future work.

2 ISSUES IN USING TECHNOLOGY

E-learning technology is introduced in education more widely than previous innovations with huge expectations, and the use of e-learning in daily life has grown at an exponential rate in recent decades. In the Saudi-Arabia, integrating e-learning technology in universities has become a demand among some politicians, decision-makers, and educators.

Saudi Arabia is a developing country that faces problems in information quality, "accessibility, quantity timing and accuracy of information" (Al-Saleh, 2004), but is also committed to improving information quality. Many studies indicate that the main issues associated with the use of e-learning and related technologies in different universities are the attitudes and perceptions of teachers.

The general policy of education in the kingdom of Saudi Arabia has emphasized the importance of integrating e-learning technology into education. Teachers' attitudes towards the use of e-learning technology in teaching and learning seem to be a crucial determinant for meaningful and effective integration (Campbell, Gilmore, & Cuskelly, 2003). In Saudi Arabia, teachers' self-efficacy and attitudes toward e-learning have seldom been researched, in other words most of the researchers investigated the factors affecting the use of computer technology among teachers. According to Al-Asmari (2005), few studies to date have investigated teachers' attitudes towards the use of e-learning technology for instructional purposes.

Therefore, this paper focuses on investigating the importance of information level of e-learning technology among teachers in Saudi Arabia universities; however, integration of e-learning technologies in classroom teaching still bears some problems. Financial and technical problems are certainly beyond what teachers can handle in their own classrooms, yet those problems related to affect, that is self-efficacy beliefs can be solved through teachers age, experience, and level of education.

3 LITERATURE

A study was conducted by Papasratorn and Wangpipatwong (2006) to demonstrate the computer self-efficacy and computer attitude that influence student activity and effort in computing environment towards e-learning outcomes. They distributed a questionnaire developed from Loyd and Loyd's computer attitude scale and Murphy's computer self-efficacy scale among 425 students. The finding of reliabilities was above .80. The results revealed that the effects of computer self-efficacy and computer attitude are significant for the e-learning outcomes.

Nevertheless, Abbitt and Klett (2007) established their study to investigate the influences of e-learning technology on the self-efficacy beliefs among pre-service teachers. They conducted their study based on the result obtained from two mid-sized public institutions in United State. They used pre and post measurements techniques in terms of comfort in using computer technology, usefulness of computer technology, and ratings of self-efficacy beliefs toward technology integration.

Then, they found that perceived comfort with computer technology was found to be a significant predictor of self-efficacy beliefs towards technology integration, while perceived usefulness was not found to have a significant predictive relationship. Based on the obtained result, they concluded that the course design that focused more broadly on issues relating to the integration of technology into teaching was likely to have a larger positive impact on self-efficacy beliefs.

Adlier (2012) investigated the relation between the Turkish and English teachers' self-efficacy and attitude based on their social demographic characteristics toward using computer and its services. He used a sample of 136 teachers in the Turkish and English language departments at the universities in Cyprus. He constructed the teachers' self-efficacy" scale from Aşkar and Umay, while the teachers' attitude scale was from Aşkar and Orçan. Then he used t-test, ANOVA, Mann-Whitney U, Kruskal Wallis, Scheffe and Pearson Product-Moment Correlation test to indicate his study relations. The findings indicated that there was a significant difference in teacher perceived computer self-efficacy whilst according to the attitudes toward computer.

A study by Zehir Topkaya and Yavuz (2011) reported the importance of self-efficacy towards using e-learning technology in relation to different variables. However, other researchers such as Khorrami-Arani (2001) investigated the most significant effect of self-efficacy beliefs on human behavior is their influence on "people's decisions, goals, their amount of effort in conducting a task, and the length of time they would preserve through obstacles and difficulties".

Deeper, a study by Koc and Bakir (2010) modeled the relationship between teachers' use of computer technologies and self-efficacy beliefs, attitudes towards and knowledge about computer technologies, perceptions of computers as educational tools. They found that there is a significant correlation between all these variables.

4 METHOD

This study used a field study to measure the relationship between teacher attitude, and teacher self-efficacy towards the use of e-learning in the Saudi universities. This study's research instrument consists of a 3-part questionnaire that was modified from various sources in order to gather information regarding demographics, attitude, and self-efficacy towards e-learning.

The sample consisted of 50 staff of public universities in Saudi Arabia that was selected through convenience sampling. Generally, the respondents have been exposed to the e-learning services and its facilities as well as having been exposed to the concept of using e-learning in teaching the undergraduate students the require skills.

5 RESULT

Respondents were randomly selected, they were leaded to view the project goals, after which they were required to answer the questionnaire. The likert scale was used started from [1] = Strongly Disagree, and till [5] Strongly Agree.

- *Profiles of Respondents*

The demographic profile of the respondents is presented in Table 1. There are 30 respondents were involved in this study. The number of male was 47 % (14 respondents) and female 53 % (16 respondents). Most of them are lecturers. The age group for the respondents was 10 % for age group 12-26 (3 respondents), 23 % for age group 27-29 (7 respondents), 20 % for age group 30-34 (6 respondents), 7 % for age group 35-39 (2 respondents), and 40 % for age group 40 and above (12 respondents),

Table 1: Respondents Profile

Variables	Item	N	%
Gender	Female	16	53 %
	Male	14	47 %
Age	19-26	3	10 %
	27-29	7	23 %
	30-34	6	20 %
	35-39	2	7 %
	40 and above	12	40 %

- *Attitude & Self-efficacy by Gender*

Based on the extracted result shown in Table 2, the teacher attitude towards e-learning for females report M = 32.50 with. Std (3.38) while the males report M = 30.71 with Std (3.70). The ANOVA test gave $F_{(1,28)} = 1.900$ at P = .179. As p > .05, the findings reveal that there is not a significant difference in teacher attitude towards e-learning by gender with females and males reporting equal attitude.

For teacher self-efficacy of females report M = 25.12 with Std (3.30) while the males report M = 24.07 with Std (3.33). The ANOVA test gave $F_{(1,28)} = 0.752$ at P = 0.393. As p > .05, the findings report that there is not a significant difference in teacher self-efficacy by gender with females and males reporting equal self-efficacy.

Table 2: Means, standard deviation and results of ANOVA for teacher attitude and self-efficacy towards e-learning by gender

		N	Mean	Std. Deviation	ANOVA RESULTS
Attitude	female	16	32.5000	3.38625	$F_{(1,28)} = 1.900$
	male	14	30.7143	3.70921	
	Total	30	31.6667	3.59438	P = .179
Self-efficacy	female	16	25.1250	3.30404	$F_{(1,28)} = .752$
	male	14	24.0714	3.33891	
	Total	30	24.6333	3.30604	P = .393

- *Attitude & Self-efficacy by Age*

For teacher attitude with age group between 19-26 years old report M = 30.80 with Std (3.89), age between 27-29 years old report M = 33.33 with Std (2.33), age between 30-34 years old report M = 33.33 with Std (3.38), age between 35-39 years old report M = 30.37 with Std (3.73), while age 40 and above years old report M = 30.60 with Std (4.33), The ANOVA test gave $F_{(4,25)} = 1.101$ at P = .378. As p > .05, the findings report that there is no a significant difference in teacher attitude towards the use of e-learning differs by age.

However, teacher self-efficacy for age group between 19-26 years old report M = 26.80 with Std. (2.68), age between 27-29 years old report M = 27.00 with Std. (1.54), age between 30-34 years old report M = 24.66 with Std. (4.80), age between 35-39 years old report M = 21.87 with Std. (2.23), while age 40 and above years old report M = 24.00 with Std.(1.22), The ANOVA test gave $F_{(4,25)} = 1.943$ at P = .135. As p < .05, the findings report that there is no significant difference in teacher self-efficacy.

Table 3: means, standard deviation and results of ANOVA for teacher attitude and self-efficacy towards e-learning by age

		N	Mean	Std. Deviation	ANOVA RESULTS
Attention	19-26	5	30.8000	3.89872	
	27-29	6	33.3333	2.33809	
	30-34	6	33.3333	3.38625	$F_{(4,25)} = 1.101$
	35-39	8	30.3750	3.73927	
	40 and above	5	30.6000	4.33590	P = .378
	Total	30	31.6667	3.59438	
Relevance	19-26	5	26.8000	2.68328	
	27-29	6	27.0000	1.54919	
	30-34	6	24.6667	4.80278	$F_{(4,25)} = 1.943$
	35-39	8	21.8750	2.23207	
	40 and above	5	24.0000	1.22474	P = .135
	Total	30	24.6333	3.30604	

- *Correlation Result*

Correlation is symmetrical, not providing evidence of which way causation flows. If other variables also cause the dependent variable, then any covariance they share with the given independent variable in a correlation may be falsely attributed to that independent. Also, to the extent that there is a nonlinear relationship between the two variables being correlated, correlation will understate the relationship. The result of the partial correlation analysis is shown in Table 4 below. The result revealed that attitude and self-efficacy were significantly correlated to e-learning in the positive correlation with 0.122. According to Cohen (1988) the 0.122 Pearson Correla-

tions represent the relationship among variables.

Table 4: Correlation between the study variables

Control Variables			Attitude	Self-Efficacy
e-learning	Attitude	Correlation	1.00	.122
		Significance (2-tailed)	.	.545
		df	0	25
	Self-Efficacy	Correlation	.122	1.00
		Significance (2-tailed)	.545	.
		df	25	0

** Correlation is significant at the 0.01 level (2-tailed).

6 CONCLUSION

Using e-learning technology to enhance teaching and learning process is not a new phenomenon. Recently, e-learning used widely in universities to assist learner and instructor learning process. This paper was established to investigate the teacher attitude and self-efficacy towards the use of e-learning technology in the Saudi universities. A questionnaire was administrated among 30 lecturers selected from different universities in Saudi Arabia. The analyzing of the result was based on the relationship between the study variables along with the teacher gender and age group. The result revealed that there is no significant difference in the teacher candidates' attitudes and self-efficacy toward e-learning. The result is also supported by the findings in the study conducted by Zehir Topkaya and Yavuz (2011).

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