



# ATTITUDE TOWARDS E-LEARNING AMONG UNIVERSITY STUDENTS IN RELATION TO COMPUTER SELF-EFFICACY

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## Abstract

The present study examined attitude towards e-learning among university students of Punjab and Haryana in relation to computer self-efficacy. For this purpose, samples of 800 university students were selected randomly. Findings reveal that there is no significant difference between mean scores of Punjab and Haryana university students on attitude towards e-learning” was retained as students belonging to different states exhibited comparable attitudes towards e-learning.

Keywords: Attitude towards E-Learning, Computer self-efficacy

## INTRODUCTION

Information and communication Technology encompasses the effective use of equipment and programs to access, retrieve, store, organize, manipulate and present data and information (Gay & Blades, 2005). E-learning, which is described as the use of ICT to enhance or support learning and teaching in education, has become increasingly important in tertiary education (OECD, 2005). The concept of e-learning is described in a lot of literature sources. The basics of these definitions of e-learning are combination, implementation and relationship of the activities for learning and teaching via different electronic media such as in distance and open learning, etc. Therefore, the recognition of the pedagogical and technological dimensions of e-learning is important as it concerns the development and application of technology enhanced courses (Tuparova et al., 2006). Furthermore, “information technology literacy” has become the centrepiece of “professional literacy” and “workforce readiness” (Resnick & Wirt, 1996). Workforce readiness includes communication skills, competencies in emerging technologies and critical thinking skills. Given the certainty of technological change, far more desirable than competencies in a limited number of specific applications, are broad flexible skills, transferable skills and the related confidence to adapt to new applications and environments (Rush, 1998). Romiszowski and Mason (1996) conclude that higher education will expand academic computing resources not only for their pedagogical benefits but also “because it will be seen to be

the duty of education to use such systems in order to prepare its graduates for the realities of a workplace where they will be obliged to use them”.

However, in integrating computers in higher education, researchers have proposed that positive attitudes toward computers and high computer self – efficacy and lower computer anxiety levels could be important factors in helping people learn computer skills and use computer (Busch, 1995). Sproull, Zubrow and Kiesler (1986) recognized that some college students felt confused and a loss of personal control when they encountered technology. Deloughry (1993) also cited that “as many as one–third of the 14 million college students in the United states suffer from “technophobia” and implied that the effectiveness for the use of computers in higher education might not be realized without research foundations and corresponding planning (Sam, Othman & Nordin, 2005).

## E-Learning

E-learning can be defined as the use of digital technologies and media to deliver, support and enhance teaching, learning, assessment and evaluation” . (Armitage and O’Leary, 2003). According to Naidu (2003), “e-learning refers to the systematic use of networked information and communication technology in teaching and learning.”

The American Society for Training and Development (ASTD) defines e- learning as teaching and learning “delivered, enabled or mediated by electronic technology for the explicit purpose of learning” (Rossen and Hartley, 2001). They include online learning, Web-based learning, and computer-based learning within e learning.

Massy and Zemsky (2004) suggest three ways to view e-learning :

1. e-learning as distance education
2. e-learning as course management systems; and
3. e-learning as electronically mediated learning, providing interactive, but not necessarily remote, learning in a digital format.

Khan (2005) suggests that the e-learning system is used for a diverse, open and flexible learning environment. In addition, e-learning system can be analysed as an approach to deliver inventive, cantered on the learner, interactive and easy learning environment to anyone, anywhere, anytime using the features and resources of the different digital technologies as well as other types of educational material adapted to a distributed, open and flexible learning environment (Ibid, 2008).

## E-learning in India

The e-learning, though reached in India late of course, but it is being fast accepted in a big way. The India perhaps has watched the success of west in adopting e-learning and is trying hard to implement it. Over the past few years, the Ministry of Human Resource Development has been trying to achieve the target of making education accessible to every corner of the country. Still there are many parts of the country, which are in darkness about e-learning (Malik, 2009).

Due to the growing Indian economy, India has a chance to become heart of e-learning programs. There are many e-learning classes which are coming to India to build and develop e-learning infrastructure.

## Attitude towards E-learning

Anastasi (1976), defined attitude as a tendency to react favorably or unfavorably towards a designated class of stimuli, such as a national or racial group, custom or an institution. An attitude is a dispositional readiness to respond to certain situations, persons or objects. Attitude testing is essential to achieve a number of purposes such as, 'to what extent the necessary attitudes have been developed in the students', 'to enable the students to develop desirable attitudes', 'to help teachers in understand students' attitudes predispose the person to action, 'to help the teacher in good teaching' and 'to help the students in their career plans'. In measuring attitudes of students, the scales which include various dimension namely, direction, degree and intensity.

Attitude refers to its positive or negative judgment on a specific topic. Attitudes are determined by the analysis of the information concerning the result of an action and positive or negative results evaluation (Ajzen & Fishbein, 1980).

## SELF-EFFICACY

Self-efficacy, a psychological construct first proposed by Bandura in 1977, can be described as "a belief about one's own capability to organize and complete a course of action required to accomplish a specific task" (Eggen and Kauchak, 2007). As can be understood from the definition, self-efficacy "is concerned ... with judgments of what one can do with whatever skills he/she possess" (Bandura, 1986). It consists of two components, efficacy expectations, which are related to belief in personal capacity to affect behaviour, and outcome expectations, which is a belief that the behaviour will result in a particular outcome (Albion, 1999).

Several research studies indicate that depending on these sources of judgments, individuals have negative or positive ideas about a behaviour before they undertake it and these ideas affect their course of action (Bandura, 1986; Albion, 2001).

## COMPUTER SELF-EFFICACY

According to Bandura (1986), self-efficacy can be a better predictor of performance than actual capability because self-percept is instrumental in determining what individuals do with the knowledge and skills they possess.

Computer Self-Efficacy refers to “self- judgment regarding the ability of a person to use computer is one kind of confidence regarding self-computer abilities, which are used to complete some specific task” (Murphy, Coover & Owen, 1989).

The concept of computer self-efficacy has become an important social construct in assessing people’s attitudes towards computer and technology (Cassidy & Eachus, 2002; Compeau & Higgins, 1995). There is a significant body of research which suggests that higher levels of self-efficacy correlates to greater motivational efforts and perseverance (Cassidy & Eachus, 2002).

### Research studies related to attitude toward e-learning

Dhamija,N (2016) evaluate undergraduate students’ attitude towards the academic utilization of E-learning. An attitude scale was developed and the study was carried out on 300 students belonging to arts, commerce and science streams. Differences in attitude between different stream students were observed. The findings revealed that overall it was affirmative approach towards E-learning among most of the students. There were no differences in attitude between arts and commerce students as well as arts and science students. Also no differences were reported between commerce and science students. Though, significant difference was reported among students with respect to gender and rural and urban residence.

Kisanga (2016) conducted a study on a 258 teachers from 4 institutions of higher education using stratified simple random sampling. Literature review and questionnaires were used in data collection. It was found that teachers have positive attitudes towards e-learning where computer exposure played a statistically significant contribution to their attitudes. “It is recommended that training in e-learning needs to be provided to teachers to widen their understanding of e-learning. There is also a need to strengthen factors associated with teacher’s positive attitudes towards e-learning. Results from this study are of particular importance to teachers and the education stakeholders in Tanzania”.

Thakkar & Joshi (2017) Found students’ attitude towards the use of E-learning systems with respect to gender, locality and social category. Finding revels that there is a highly positive incline of diploma engineering students towards the usage of E-learning and attitude is not affected by differences in gender, locality or social category of students.

Dookhan (2018) Conducted study on the Mauritian university students as the consumer in the e-learning process. A survey was conducted using structured questionnaire to target university students from public HEIs in Mauritius. Out of a sample of 200 respondents only 156 questionnaires were received back where only 150 were found reliable for testing. Data collected was statistically examined using SPSS and the

research hypotheses were tested using regression analysis. The results reveal that students are adopting technologies in their studies and wish to use it in a more progressive way.

## Reviews related to computer self-efficacy

Egbe (2014) examined the attitude of students towards e-learning in selected south-west Nigerian universities. The study looked at the relationship between attitude and e-learning with the application of Technology Acceptance Model (TAM). Questionnaire was used to collect data from a sample of 387 postgraduate and undergraduate students. Statistical techniques used for the analyses of data were frequency distribution, simple linear regression, One-Way ANOVA and paired T-test was used to test the hypotheses. Findings showed that students have a positive attitude towards e-learning because they find the system easy to use and useful for their course work. Also, attitude influences the intention to use an e-learning system.

Ebitar (2015) conducted a study in Egypt. The study exposed that age had significant effect on teacher's computer self-efficacy. Additional research findings by Czaja (2006) showed that "in general computer users above the age of 65 had low self-efficacy in their ability to use computer than did younger people. However, Awofala et al. (2015) conducted a study to examine the Nigerian pre-service teacher's level of computer related self-efficacy, and to determine the invariability of this with respect to the demographic variables such as age, gender and discipline of study. Among others, the results showed that construct of computer self-efficacy appeared invariant with respect to the age classification".

Sarfo et al. (2017) investigating (a) "the level of computer self-efficacy among public senior high school (SHS) teachers in Ghana and (b) the functionality of teacher's age, gender and computer experiences on their computer self-efficacy. Four hundred and seven (407) SHS teachers were used for the study. The "Computer Self-Efficacy" (CSE) scale, developed by Teo and Koh (2010) was adapted and used for data collection. Descriptive statistics, t-tests and unvaried analyses were employed to analyze the data. The findings revealed that generally, SHS teachers neither disagree nor agree that they are computer self-efficacious; specifically they agree that they are self-efficacious in basic computer skills but not certain about their self-efficacy in web based skills and not self-efficacious in media related computer skills." Moreover, the results revealed that teacher's age, gender, and computer experiences have similar and dissimilar influences on their computer self-efficacy related to different computer application software. Furthermore, according to the results teacher's gender and their computer experience have interaction effect on their computer self-efficacy whilst (a) teacher's gender and age and (b) teacher's age and computer experience have no statistically significant interaction effect on their computer self-efficacy. The study provides new and vital information for educational practitioners in Ghana. The findings suggest that expecting teachers in developing country such as Ghana to teach with technology still remains as a very challenging issue which requires important attention. In addition, the study provides new insights into explanation for contradictory research findings of the effect of (SHS) teacher's age, gender and computer experience on their computer self-efficacy in the literature.

## Objectives

To compare attitude towards e-learning Punjab and Haryana university students with respect to their Computer self-efficacy

## Hypotheses

H1: There is no significant difference between mean scores of Punjab and Haryana university students on attitude towards e-learning with respect to their computer self-efficacy

## SAMPLE OF THE STUDY

Random sampling technique employed for the study. Approx. 800 students of different faculties and departments of Universities situated in Punjab and Haryana selected for the study.

## TOOLS

- i. Attitude scale towards e-learning by Dimple Rani (2015)
- ii. Computer self-efficacy scale by Embi (2007)

## ANALYSIS OF DATA AND INTERPRETATION OF RESULTS

Analysis of attitude towards e-learning scores of university students with respect to different levels of computer self-efficacy

2x2x2 ANOVA was employed for analysing student's attitude scores with respect to different levels of computer self-efficacy. Following null hypothesis was tested through this analysis:

H1: There is no significant difference between mean scores of Punjab and Haryana university students on attitude towards e-learning with respect to their computer self-efficacy



**Table 1.1: Summary of 2x2x2 ANOVA for students' attitude scores towards e-learning at different levels of computer self-efficacy**

Source	Type III Sum of Squares	Df	MSS	F	Sig.	Result
State	2372.643	1	2372.643	1.948	.163	NS
Faculty	2142.743	1	2142.743	1.759	.185	NS
Different levels of computer self-efficacy	154495.625	2	77247.812	63.411	0.01	S
State * Different levels of computer self-efficacy	6375.900	2	3187.950	2.617	.074	NS
Faculty * Different levels of computer self-efficacy	1843.881	2	921.940	.757	.470	NS
State * faculty	75.679	1	2387.950	1.617	.560	NS
State * faculty * Different levels of computer self-efficacy	100.636	2	5214.588	3.763	.61	NS
Error	959954.499	788	1218.216			
Total	30045036.000	800				
Corrected Total	1132346.755	799				
S - The mean difference is significant at the 0.05 level NS – The mean difference is not significant at the 0.05 level						

Table (1.1) shows that the F-ratio for the differences in the means of attitude scores of Haryana and Punjab students' scores was found not to be significant even at the level 0.05 confidence. It may be inferred that the means of both states on students attitude scores may be considered equal. The null hypothesis of equality (H<sub>1</sub>) was therefore retained.

## Findings:

There is no significant difference between mean scores of Punjab and Haryana university students on attitude towards e-learning" was retained as students belonging to different states exhibited comparable attitudes towards e-learning.

- Both Punjab and Haryana students belonging to science and arts were equally 50%.
- About 46.5% percent of the Punjab students were male as compared to 53% percent of Haryana students. Remaining 53.5% percent of the Punjab students were female as compared to 47% of Haryana students.
- About 94.8% of Punjab students were of age group 19-25 years as compared to 55.8% of Haryana students. 5.0% of Punjab students were of 26-30 age groups as compared to 30.3% of Haryana students. About only .3% of Punjab students were from 31-35 age groups as compared to 9.8% of Haryana students.

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