

ATTITUDE TOWARDS INFORMATION AND COMMUNICATION TECHNOLOGY USEGE AMONG TEACHER EDUCATORS IN RELATION TO COMPUTER COMPETENCY

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Abstract

The present study examined attitude towards information and communication technology usage among teacher educators in relation to computer competency of Punjab state. For this purpose, samples of 400 teacher educators were selected randomly. Findings reveal that the means of different faculties on teacher educator's attitude scores may be considered equal and teacher educator's attitude scores mean were significantly different when they had low, moderate and high computer competency.

Keywords:

Attitude towards ICT, Computer competency

INTRODUCTION

Information and Communication Technology (ICT) has become one of the basic building blocks of the modern society. The radical technological transformation in both developed and developing countries has made pervasive impacts on various segments. Therefore, it is not surprising to find an exponential growth in the use of ICT in education all over the world. Some impressive evidence on the effectiveness of ICT in education reveals that it has greater impact than any other innovation (Fluck, 2003).

Information and Communication Technology (ICT) has suffused in every walks of life influencing the technology fields such as enabling satellites,

business, commerce, and also social networking. In this fast-growing and fast-changing digital era, teaching becomes the most challenging profession all over the world, where knowledge is expanding and exploring quickly and much of it is available to students as well as teachers at their learning environment(Somekh 2013).

Teacher education is a vital programme for the betterments of society. The learning outcomes of teacher education programmes should not have pitfalls and blockades. The enhancement of learning outcomes should change the society in all endeavours. Teacher is considered to be the architect of the nation. In other words, the prospect of the nation lies in the hands of teacher. This illustrates the significance of teacher. Various education commissions and number of expert committee suggests and advocates that the incorporation of ICT in each and every aspect of teacher preparation programmes definitely will enhance the quality of future teachers. They are envisaging that ICT will fetch about numerous benefits to the learner and the teacher. These include partaking of resources and learning environments as well as the promotion of concerted learning and a universal move towards greater learner autonomy. In order to produce quality teachers the teacher educators should be trained in ICT. Inferring the deficiency of the lack of ICT skilled human resources, the regulatory bodies like NCTE, NCERT, SERT, ISTE etc., as a capacity building exercise conducted ICT literacy camps for teacher educators throughout India. The interest, attention and attitude of the teacher educators are most essential key parts to inculcate the sound knowledge of ICT among their student teachers (Ganesan,2016).

Information and Communication Technology (ICT) Defined

Information technology [IT] is the term used to describe computer hardware and software which are used "to access and retrieve information, and store, organize, manipulate and present" it by electronic means. While the items of equipment such as personal computers, scanners and digital cameras are

included in the hardware category, database storage and multimedia programs take place in the software category.

Akir (2006) in his research defined Information and communication technology (ICT) as a term that refers to stand-alone computers, networked devices and telecommunication technologies with multimodal interface, mobile phones/devices with capability to perform data communication, and other technologies that allow multimodal and interactive communication.

ICT encompass all the technologies by means of which we can detect these signals, interpret them and exchange information with others. The term ICT is plural, referring to a great many technologies. To sum up, ICT is an all-encompassing term that includes the full gamut of electronic tools by means of which we gather, record and store information, and by means of which we exchange and distribute information to others (Anderson, 2010).

Attitude towards ICT

Attitude towards Information and communication technology (ICT) was defined as the degree of favour or disfavour towards the existence of ICT. It consisted of three components: affective, cognitive, and behavioural (Ajzen & Fishbein, 1980). Attitude towards ICT is person's general evaluation or feeling of favour or antipathy towards computer technologies and specific computer related activities.

ICT attitude is the predisposition of a person to respond positively or negatively towards computers and related technologies. It affects everything the person does with the computer and in fact reflects what experience the user has and is hence a determining factor of the user's behavior towards them. Additionally, the user's computer attitude provides the user with a framework within which to interpret the effect and the integration of computer in the user's life (Ololube, 2009).

Computer Competency

Computer competency is the ability, skill and knowledge to operate the computer. Rosenberg (2004) argues that the implementation of knowledge and skills to operate the computer varies. In order for e-learning to become a significant part of learning, it is important that competence - the learning, practice and demonstration of performance - is matched to the "right delivery vehicle" (Rosenberg, 2001), which refers to the Web-based application. Although he refers to general competence in e-learning, computer competence forms an integral part of it. Despite the widespread influx of technology in all segments of our society, the literature often reports high levels of anxiety and negative attitudes about using computers. Computer competence can manifest itself through personal innovativeness, playfulness and computer skill, which are determinants of use, achieving effects through ease of use and usefulness (Saeed, Hwang and Yi, 2003).

Studies Related Attitude towards ICT usage among Teacher Educator

Pareek, R(2005) found that there is no difference in the attitudes of teacher educator towards teaching ICT in terms of gender and locality. The attitude towards teaching ICT was found more positive in the teacher educator of private college. The attitude towards ICT of teacher educator having less experience of ICT was found to be more positive as compared to the pupil teacher who has more experience of ICT.

Teo, T(2008) carried out a survey on pre-service teachers" attitude towards computer use in Singapore. 139 sample pre-service teachers were assessed for their computer attitudes using questionnaire with four factors: affect (liking), perceived usefulness, noticed control, and factual intention to use the computer. He stated that teachers were more specific about their attitude towards computers and intention to use computer than their perception of the usefulness of the computer and their control of the computer.

Rajeswari & Amutha (2017) Studied about the teaching competence of teacher educators and attitude towards ICT. Normative survey method has been used and by using random sampling technique 500 teacher educators, were selected. The results show that the level of teaching competence of teacher educators is high and attitude towards ICT is favourable. There is significant difference in the teaching competence among teacher educators and attitude towards ICT with regard to way of handling classes. There is significant difference in the attitude towards ICT among teacher educators with regard gender. There is no significant difference in the teaching competence among teacher educators with regard gender. There is significant relationship between teaching competence and attitude towards ICT of teacher educators.

Nimisha and Lalit (2019) investigate the attitude of teacher-educators towards the use of ICT along with knowledge and levels of ICT tools and devices usage among teacher-educators in teaching training colleges. A purposive sampling technique was employed in the selection of the sample of as many as 50 teacher-educators working in different teacher-training colleges in the State of Haryana, India. The findings of the study revealed that the teacher-educators have positive attitude to some extent towards the ICT and its tools and devices usage in teacher education process.

REVIEW OF LITERATURE RELATED TO COMPUTE COMPETENCY

McCoy (2001) conducted a study titled “Computer competencies for the 21st century information system educator”. The objective of the study is to find the most essential computer competencies that business teachers should be able to exhibit in the classroom. The study primarily administered the use of a Delphi instrument consisting of electronic mail that served as the primary communication source. 23 experts nominated by the National Association for Business Teacher Education (NABTE) served on the Delphi

panel. The findings of the study include 95 statements about computer competencies, which are grouped in five categories namely computer hardware, software, computer programming, computer integration, and general computer knowledge. The results revealed that computer software was the most important domain of computer competencies needed by business teachers

Chilambarasan, D. and Nellaiyapen, N.O (2011) attempted to study the teaching competency of teacher trainees in Tamil Nadu, India. 300 B.Ed. Teacher Trainees were selected randomly from various B.Ed. Colleges of Tamil Nadu. General Teaching Competency scale by B. K. Passi (1994) was used to assess Teaching competency. Research findings revealed that there was no significant difference between B.Ed. teacher trainees in their teaching competency based on gender, graduation and parental education. It was also found that maximum number of B.Ed. teacher trainees had a high level of teaching competency.

Gudmundsdottir and Hatlevik's (2018) studied newly qualified teachers in Norway where they reported that 'nearly half of the newly qualified teachers in the study found that the quality of their ICT training was fairly poor and that ITE had a fairly poor contribution to the development of their PDC (Professional Digital Competence)'.

Çebi, A., & Reisoğlu, I. (2020) examined the opinions of pre-service teachers on their digital competence and to determine whether these opinions vary according to gender, branch and perceived level of digital competence. In this study, a cross-sectional survey model was used. In such a context, the study was conducted with 518 pre-service teachers who were studying in different provinces of Turkey. The study used a digital competence questionnaire as a data collection tool. When the results were evaluated, it can be said that the digital competence of pre-service teachers is moderate and that it varies

significantly according to gender, branch and perceived level of digital competence.

SIGNIFICANCE OF THE STUDY

The teachers Educators are the ones who lay the foundation for the future teacher, but however, they have not been investigated under the framework of computer anxiety computer competency researchers. It is believed that this study will help to reveal the gaps in information related to computer competency and anxiety in education field among teacher educators. Building a rich learning atmosphere for the learners is very essential in the teaching learning process. Although teachers maybe equipped with technological resources, the success of implementing the new method of teaching with information technology in education, depends greatly upon the attitudes and their willingness to adapt such technology. In order to examine the level of computer competency of the teacher educators, it is necessary to gauge their attitude towards the same.

OBJECTIVES

1. To study Teachers Educators' attitude towards ICT usage at different levels of computer competency.
2. To study Teachers Educators' attitude towards ICT usage belonging to different faculties with regard to computer competency

Hypothesis

H1: There is no significant difference between attitudes towards ICT use scores of teacher educators of different faculties.

H2: There is no significant difference between attitudes towards ICT use scores of teacher educators with different level of computer competency.

Sample

In the current study, the population of the research 400 teacher educators of different colleges affiliated to Universities of Panjab state were selected. The sampling technique at this level was purposive-cum random.

Tools Used

- i. Scale of attitude towards ICT usage
(ICT Attitude Scale' by Dr, Sunanda Saini (2015)
- ii. Computer Competency Scale
(Computer Competency Scale by Ziba Nikkhah Far (2013)

Statistical Techniques

The following statistical techniques were employed to analyse the data obtained in order to test hypotheses.

2x3 ANOVA was employed to study the impact of different levels of computer competency on teacher educator's attitude towards ICT use scores.

Analysis

Analysis of teacher educators attitude scores towards ICT use with respect to different levels of computer competency

2x3 ANOVA was employed for analysing teacher educator's attitude towards ICT use scores with respect to different levels of computer competency. Following null hypotheses were tested through this analysis:

Table 1.1 Summary of 2x3 ANOVA for teacher educator's attitude towards

ICT use scores at different levels of computer competency

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Result
Faculty	4.820	1	4.820	0.013	0.910	NS
Different levels of computer competency	9797.861	2	4898.93	12.980	.000	S
Faculty * Different levels of computer competency	232.323	2	116.162	0.308	0.735	NS
Error	73218.310	388	377.414			
Total	1.327E7	400				
Corrected Total	84894.000	398				
S - The mean difference is significant at the 0.01 level						
NS - The mean difference is not significant at the 0.05 level						

Faculty:

Table above shows that the F ratio for the differences in the mean of teacher educator's attitude scores towards ICT use at different faculties was found not to be significant even at the level 0.05 confidence. It may be inferred that the

means of different faculties on teacher educator's attitude scores may be considered equal. The null hypothesis (H1) of equality was therefore retained.

Computer Competency:

The F-ratio (Table 1.1) for the differences among the means of attitude scores of teacher educator's with low, moderate and high computer competency scores was found to be significant at the level 0.01 confidence. This suggested that the teacher educators were significantly different beyond chance, on their attitude towards ICT use when they had low, moderate and high computer competency. Therefore, Ho2 was rejected at the specified level. An examination of the means of teacher educator's 'attitude scores at different faculties (Table 1-1) clearly indicated that the means of teacher educator's attitude scores at Humanities /Languages faculty with regard to high computer competency (mean = 257.75) were more than teacher educator's attitude scores under moderate (mean= 249.26) and low (mean= 220.50) levels of computer competency. Similarly, the means of teacher educator's attitude scores at Science/Mathematics faculty with regard to high computer competency (mean= 262.19) were more than teacher educator's attitude scores under moderate (mean= 253.50) and low (mean= 209.50) levels of computer competency.

DISCUSSION OF RESULTS

Hypothesis 1, "There is no significant difference between attitude towards ICT use scores of teachers of different faculties" was retained as the teacher

educators belonging to different faculties exhibited comparable attitude towards ICT use. Similar findings were reported by Abu Qudais, Al-Adhaileh and Al-Omari (2010) and Yapici and Hevedanli (2012). They also discovered that there was no significant difference between faculty members' attitude towards using technology and colleges or classes.

Hypothesis 2, 'There is no significant difference between attitude towards ICT use scores of teacher educators with different level of computer competency' was rejected as the teacher educators with high computer competency exhibited better attitude towards ICT use as compared to those with moderate and low computer competency. This finding was consistent with Zhou, Hu and Gao (2010) and Olu Jegede et al (2007) who found that there were significant differences between teachers' attitude towards ICT and computer competence.

Findings

- F- ratio for the differences in the mean of teacher educator's attitude scores towards ICT use at different faculties was found to be not significant even at the level 0.05 confidence. It may be inferred that the means of different faculties on teacher educator's attitude scores may be considered equal.
- F-ratio for the differences among the means of attitude scores of teacher educators with low, moderate and high computer anxiety scores was found to be significant at the level 0.01 confidence. It may be inferred that teacher

educator's attitude scores mean were significantly different when they had low, moderate and high computer anxiety.

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