

## ATTITUDE TOWARDS ICT USEGE AMONG TEACHER EDUCATORS IN RELATION TO ANXIETY

Dr Sunita Arya

Professor, School of Education,  
Sabarmati University, Ahmadabad

Mehta Artiben Arvindbhai

Research scholar  
Sabarmati University, Ahmadabad

### Abstract

*The present study examined attitude towards information and communication technology usage among teacher educators in relation to computer Anxiety 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 anxiety.*

**Keywords:**  
*Attitude towards ICT, Faculty, computer Anxiety.*

### Introduction

Information and Communication Technology is the buzzword today everywhere as the world has entered into an information and communication age. Whether it is a developed or developing country, north or south, east or west, ICT is omnipresent. It has helped in all walks of life in one-way or other. The twentieth century witnessed the rapidly accelerating advent of Information Technology (IT). The progress has been truly amazing. About 40 years, electronic communications and news media have become commonplace and indispensable. Computers have proliferated, becoming increasingly fast, powerful, small and cheap, so that now there is scarcely a human activity in which they are not to be found, bearing an increasing share of burden of repetitive information processing activities. Information and Communication Technologies (ICTs) which include television, digital technologies such as computers and the internet are powerful tools for educational change and reform. Information and Communication Technology (ICT) used in teaching and learning includes the full range of computer hardware, computer software and telecommunication facilities. It includes the full range of display and projection devices used to view computer output. It includes the local area and wide area networks that allow computer systems and user (teachers and students) to communicate with each other. It includes digital cameras, computer games, CDs, DVDs, cell telephones,

telecommunication satellites, fibre, optics, computerized instruments and computerized machinery.

Development in information and communication technology is going to open up new and cost-effective approaches for expanding the reach of education to children, youth as well as to those who need continuing education to meet the demands of explosion of information, fast-changing nature of occupations and life-long education. The consensus of opinion among social scientists and business planners is that information and communication technology is a growing area in the foreseeable future and can create vast opportunities in almost all areas of life.

According to Adeya (2002) ICTs are embedded in networks and services that affect the local and global accumulation and flows of public and private knowledge. Moreover, Adeya mentions about a more simplified definition describing ICT as an 'electronic means of capturing, processing, storing and disseminating information'. In broader sense, the term, Information and Communication Technologies (ICT) refers to forms of technologies that are used to create, store, share or transmit and exchange information. This broad definition of ICT includes such technologies as radio, television, video, DVD, telephone both fixed line and mobile phones, satellite systems, computer and network hardware and software; as well as the equipment and services associated with these technologies, such as videoconferencing and electronic mail. (UNESCO, 2002)

### **ATTITUDE TOWARDS ICT**

An effective educational environment is also characterized by a positive school climate where the teachers and students feel good about teaching and learning and cooperate to foster a caring attitude. Attitude has great importance in learning and teaching. It is one of the important objectives of teaching and learning to develop attitudes in the process of school subjects. A review of the psychological literature reveals diverse definitions of attitudes. According to International Encyclopaedia of Education (1991), Attitude is a term which has been used to describe in general way the reaction of a subject upon any impression received from his environment. Used in this fashion it is sufficiently comprehensive to include feeling, attention and other similar general phases of mental experience. It refers also to bodily activities when these are directed towards given object and thus serves the useful purpose of associating in discussion mental states with the bodily reaction which condition or by which they are themselves conditioned.

According to Whitrow (1999) computer-related attitude influence students' desire to use computers, their desire to enrol in computer-related subjects and courses, and their choice of career path. Students' computer-related attitudes are also directly related to their prior experiences and use of computers.

## Computer Anxiety

There are many definitions and interpretations of anxiety; however, they all refer to a complex combination of negative emotional responses that include worry, fear, apprehension and agitation. These responses are generally learned from direct experiences when a person comes in contact with a threatening object or situation. The most common types of anxiety are generalized anxiety disorder, panic disorder, social anxiety disorder, phobias, obsessive-compulsive disorder, and post-traumatic stress disorder. However, when it comes to technology, Oetting (1983) identified three types of anxieties (a) trait, (b) state, and (c) concept-specific. The author described trait anxiety as the general pervasive anxiety experienced by a person over the entire range of life experiences. Trait anxiety is frequently used as a construct for personality, learning theory, and psychopathology since people who exhibit trait anxiety are chronically anxious and constantly under tension regardless of their situation. Oetting explained that state anxiety was a feeling a person experienced at a specific time. When a person experiences anxiety, the feelings fluctuate over time and react to a responsive situation. It is related to a person's learning background. The individual may have experienced some anxiety in a specific situation and that feeling is transferred to another similar situation. Concept-specific anxiety is a transitory neurotic type of anxiety. This is the range between the trait and state anxieties that is associated with a specific situation. The concept-specific anxieties "fill the gigantic range between general trait anxiety and state anxiety" and are "an anxiety that people associate with specific situations".

Herdman (1983) defined computer anxiety as emotional fear, apprehension, and phobia felt by individuals towards interactions with computers or when they think about using computers. Cambre and Cook (1985) stated that computer anxiety is a form of state anxiety, and it was brought on in part by the rapidly changing nature of new technology and the subsequent pressure for social change in modern time. Howard and Smith (1986) defined computer anxiety as "the tendency of a particular person to experience a level of uneasiness over his or her impending use of a computer". They proposed sources of computer anxiety and identified those as (a) lack of operational experience with computers, (b) inadequate knowledge about computers, and (c) psychological makeup. They also theorized that computer anxiety based on the lack of operational experience with computers is the easiest to treat, computer anxiety arising from knowledge-based origins is of intermediate difficulty to treat, and computer anxiety based on an individual's psychological makeup is the most difficult to treat.

## Studies Related Attitude towards ICT usage among Teacher Educator

Bingimlas (2009) stated that teacher-educators who are assured using ICT in teaching learning process approve that new technologies benefit them to teach effectively and would like to apply them more in the future.

Serhan & Chai (2009) investigated pre-service teachers' beliefs about the use of computer technology and the effectiveness of ICT programs. The results of the studies indicate that pre-service teachers recognized the importance of technology integration into their syllabus and believed that ICT use would enhance student learning. Researcher felt that such programs inclined them to apply ICT in the upcoming education scenario, and their capability to evaluate, select, and use a variety of technological devices upgraded. They found that ICT courses with direct instruction on the use of technological tools through the technology enhanced lesson (TEL) approach helped teachers to learn how to use technologies as supporting tools in order to enhance their teaching and student learning. Consequently, the pre-service teachers were found to be favourable towards TEL.

Gupta, Surya Narayan (2010) studied about awareness and use of information and communication technology (ICT) by teacher educators. The awareness towards ICT was found to be high but use of these tools or practical knowledge is found to be low. They are aware and use traditional tool but they are still lacking in the use of computer and internet. Female teachers are more aware and use these tools than that of male teachers. Study lays out that B.Ed. course are good enough to make teachers aware of various ICT tools but teachers are not anxious to use them as they scored low in usage.

Voogt (2010) established that educators who apply ICT tools and devices widely in their teachings incline to have a great level of sureness in pedagogical technology abilities and emphasis on a learner-centered approach.

Shabnam and Nalavade (2012) examined the relationship between teacher's attitude towards ICT teaching, student engagement in the class and teaching time. The participants were the experienced teachers under the 30 to 40 age group of the computer science department of Smt.kasturbai Walchand College, Sangli. Results indicated significant relations between the teacher's attitudes towards ICT teaching and teaching time on the course.

Rengarajan and Senthilnathan (2012) conducted a study on Teacher educators Attitude towards e-learning. The major objective of the study is to assess teacher-educators attitude towards e-learning. The major findings of the study were nearly 55 per cent of the sample felt that e-learning does not make teaching more difficult. More than 23.13% of the teacher educators have 2 to 4 years' experience in computer and only a very few of them 13.13% have less than one year experience in computer. When it comes to the length of experience with the Internet, 25.62% of the teacher-educators who formed the sample had no experience with the Internet. More than 60 percent of the sample held a negative view about e-learning possibility of interaction with students.

Sandip & Snehal (2015) investigated the Attitude towards using ICT in teaching among the Student Teacher in B.Ed. colleges from Savitribai Phule Pune University, Pune. Hundred Student Teachers in B.Ed. College were taken as sample. A self-constructed Attitude scale towards using ICT in teaching containing 20 statements was used to collect the data. The study

revealed that majority of the Student Teachers have more favourable attitude towards using ICT.

### **STUDIES RELATED TO COMPUTER ANXIETY**

Kumar, A (2018) conducted quantitative research to investigate the “ ICT STRESS AMONG STUDENT TEACHERS OF B.ED. COLLEGES “.The sample used for study was 150 teachers from different B.Ed. colleges of Patna block. The findings of the research showed that The Student Teachers of Hindi Method were found to have significantly higher level of ICT stress than the Student Teachers of English, Student Teachers of Mathematics, and Student Teachers of Account.

Awofala ,A (2019) investigated attitudes towards computer and computer anxiety as determinants of computer self-efficacy among 2100 pre-service science, technology and mathematics (STM) teachers from the University of Lagos of Nigeria using the quantitative research method within the blueprint of the descriptive survey design. Data collected were analysed using the descriptive statistics of percentages, mean, and standard deviation and inferential statistics of independent samples t-test, Pearson product moment correlation coefficient and multiple regression analysis. Finding revealed significant correlations between computer attitudes, computer anxiety and computer self-efficacy. Gender differences in attitude toward computer, computer self-efficacy and computer anxiety among pre-service STM teachers were significant. Affective component, perceived control component, and perceived usefulness component, behavioural intention component, gender, and computer anxiety made statistically significant contributions to the variance in pre-service STM teachers’ computer self-efficacy. The study recommended among others that academic institutions should pay more attention to this computer anxiety and adopt proper ways of reducing the computer anxiety, so that positive e-learning experiences can be created for pre-service STM teachers.

Pankajbhai and Priteshkumar (2020) studied the effect of sex, area and caste on Computer phobia of Male and Female B.Ed. Trainees of Navsari district in Gujarat state. The sample consisted of 360 B.Ed. College trainees. The sample was selected in terms of Gender (male and female), Area (rural and urban) and Type of Students (Arts, Commerce and Science) in equal proportions, drawn randomly method. Computer phobia was measured by Computer Phobia Scale Rajasekar & Vaiyapuri Raja. (2005). Mean, Standard Deviation and ‘t’ test was used for analysis the data. Finding revealed that significant difference between Computer phobia of Male and Female B.Ed. trainees. Researcher also found significant difference between Computer phobia of rural and urban B.Ed. trainees, and significant difference between Computer phobia of Arts, Commerce and Science B.Ed. trainees.

## NEED OF THE STUDY

The world is changing fast due to the technological developments. Application of technologies is seen in almost all aspects of education. The wider changes taking place in the society are providing a context for instructional development. Over the years there is a shift from oral to written, formal to non-formal, teacher centered to student centered and rigid to flexible forms of instruction. The information age requires a higher level of skill and knowledge of all individuals. Teacher Educators professional knowledge, skill and capabilities are enhanced by ICT as their subject knowledge is expanding. ICT enables teacher educators in planning and preparing them for more efficient teaching. Research by Sutton (2006) also shows that ICT enables effective learning. For creating learning environment ICT is recognized as an essential ingredient of education system. Power of technology to transform learning is recognized by educators worldwide. Today's teacher educators find themselves wandering in a situation, where they have to make use of computers to update their knowledge and deliver lessons through the computer and on the other side of the picture; they face certain stress full symptoms while dealing with the computer in the classroom. Most teacher educators agree that computers are very useful tool but few of them use computers extensively in the classroom. Teachers with anxiety either avoid teaching with computers or if they do not teach with them pass their anxiety and negative attitude to their students. Researches indicate low adoption of computer technology when institutions simply purchase hardware and software programmes for their users, without positive attitudes and computer self-efficacy faculty members are less likely to increase their use of technology or consider the integration of technology in their instructional activity (Dunlop, 2005).

This kind of situation is also prevalent in the classroom where teacher educators have anxiety or phobia to use technology, this results in a sense of low ICT self-efficacy negative attitudes to use ICT in their classroom. So there is need to investigate Attitude towards Information and Communication Technology (ICT) among teacher educators of Punjab.

## OBJECTIVES

1. To study teacher educators' attitude towards ICT usage belonging to different faculties with regard to computer anxiety.
2. To study teacher educators' attitude towards ICT usage at different levels of computer anxiety.

## Hypotheses

H1: There will be no significant difference between attitude towards ICT usage scores of teacher educators' of different faculties.

H2: There will be no significant difference between attitude towards ICT usage scores of teacher educators' with different levels of computer anxiety.

## 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 anxiety scale  
(Computer anxiety scale by Embi (2007))

## 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 anxiety on teacher educator's attitude towards ICT use scores.

## Analysis

Analysis of teacher educator's attitude scores towards ICT use with respect to different levels of computer anxiety

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

H4: There is no significant difference between attitudes towards ICT use scores of teacher educators of different faculties.

H5: There is no significant difference between attitudes towards ICT use scores of teacher educators with different level of computer anxiety.

**Table 1.1 Summary of 2x3 ANOVA for teacher educator's attitude towards ICT use scores at different levels of computer anxiety**

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Result
Faculty	143.192	1	143.192	0.350	0.555	NS
Different levels of computer anxiety	3485.143	2	1742.572	4.257	0.016	S
Faculty * Different levels of computer anxiety	970.702	2	485.351	1.186	0.308	NS
Error	79417.911	388	409.371			
Total	1.327E7	400				
Corrected Total	84894.000	398				
<b>S - The mean difference is significant at the 0.01 level</b>						
<b>NS - The mean difference is not significant at the 0.05 level</b>						

**Faculty:**

Table 1.1 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 Anxiety:

The 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. 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 anxiety. Therefore, H2 was rejected at the specified level. An examination of the means of teacher educator's 'attitude scores at different faculties clearly indicated that the means of teacher educators attitude scores at Humanities /Languages faculty with regard to high computer anxiety (mean= 249.64) were less than teacher educator's anxiety under moderate (mean= 255.26) and low (mean=256.00) levels of computer anxiety. Similarly, the means of teacher educator's attitude scores at Science/Mathematics faculty with regard to high computer anxiety (mean=243.64) were less than teacher educator's attitude scores under moderate (mean= 261.22) and low (mean= 270.67) levels of computer anxiety.

### 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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Contributors Details:

Dr Sunita Arya

Kaneria Nita Mohanlal