Attitude of Teachers towards the use of Technology in Teaching

Gourav Mahajan

Sri Sai College of Education, Badhani, Punjab, India

ABSTRACT

Due to the extensive use of technology in every walk of life, the educational institutes are also supposed to prepare their students to be technology literate (Kalanada, 2005). It is due to this reason the use of technology in schools in general and in classrooms, in particular, has been increasing day by day. To reap full benefits from the use of technology in education the policy planners must give due consideration to all the necessary conditions and environments, directly or indirectly, related to the technology use. Many researchers in the field of education have explore the various factors that influence the technology use in education in one way or the other. The most prominent factors amongst the factors that affect the successful use of computers in the classroom is the teachers' attitudes towards computers. The present study was, therefore, undertaken to examine the attitude of teachers towards use of technology in teaching. For the present research a sample of 100 school teachers was drawn from 10 schools of Nurpur and Jawali Blocks of Distt Kangra by using convenient sampling technique. A self developed questionnaire was used by the researcher for the purpose of data collection. The study found that about 25% of the teachers had only favourable attitude towards use of technology in teaching. No significant difference was found between attitude of teachers towards use of technology in teaching in relation to their gender and teaching experience.

Keywords: Technology literate, policy planners, prominent factors, questionnaire

In the present era the use of technology in our lives is very common feature. Everyone uses it for many reasons at different places either at home, at office, at business place or elsewhere. Other than the educational

Address for correspondence

Sri Sai College of Education, Badhani, Punjab, India

E-mail: gaurav.pse@gmail.com

qualification an essential qualification in the form of computer literacy, not only literacy rather efficiency and skill, is generally required at almost all job places at all levels. Due to the extensive use of technology in every walk of life, the educational institutes are also supposed to prepare their students to be technology literate (Kalanada, 2005). It is due to this reason the use of technology in schools in general and in classrooms, in particular, has been increasing day by day. To reap full benefits from the use of technology in education the policy planners must give due consideration to all the necessary conditions and environments, directly

or indirectly, related to the technology use. Many researchers in the field of education have, therefore, tried to explore the various factors that influence the technology use in education in one way or the other. The social environment of an individual influences him much more as compared to his physical environment. The customs, beliefs, prejudices, value pattern and the norms of the society, of which he is the member, affect his life style in all possible ways. The value system and the beliefs are the two promising factors which are found to determine the attitude of an individual towards technology (Gardner, Dukes, & Discenza, 1993).

The educational policies of the country are the reflection of country's ideology and the philosophy upon which its whole educational system is based upon. If the country believes in educational benefits of the technology, efforts will be made to incorporate it in education in various ways for different purposes. The educators will also be provided with all possible facilities to ensure easy access to technology and hence, to use it for educational purposes. The teachers by using technological tools in their teaching may determine the attitude of masses towards technology through students. The culture, educational system of the country and the method of teaching adopted by the teacher, therefore, have their great influence in determining the attitude of students towards integration of technology in education (Becker, & Maunsaiyat, 2002).

To buy a gadget like computer had been a distant dream for many till 1990s. The heavy cost of computer debarred people at large to avail it for their personal use. However, the diminishing costs of the gadgets in 21st centaury give an opportunity to many to avail these facilities at home itself by paying less cost as compared to earlier which further leads to alteration in their attitude towards it. The availability of computers at home also affects the students' attitudes towards it use in classroom. Those who have computer at home have positive attitude towards its use in classroom as compared to those who lack this facility at home (Isman, & Dabaj, 2004).

The benefits of the technology are not area specific. It means it is in reach of everyone at any place of the world; a city, town or a village. No place is left where technology has not been in use for one reason or the other. The extent of use, however, may vary from region to region depending upon the local conditions and awareness of its citizens. The locality, to which the students belong, therefore, is another factor determining their attitude towards tools of technology. The students coming from the urban areas possess favorable attitude towards technology than their rural counterparts (Sarfo, Amartei, Adentwi, & Brefo, 2011).

There is a law of learning-Law of Effect, given by the psychologist Thorndike. The law states that if one finds something useful for him he will definitely learn it in a better way and vice-versa. In other words if one feels satisfied with the response of his learning experience or he feels that the learning experience is worth use for him he will adapt that learning and if not, he will leave it. The opinion of one about the usefulness of computer and the extent he uses it equally influence his attitude for computer (Sacks, Bellisimo, & Mergendoller, 1993).

Individual differences account for many variations. The one very common and important dimension of individual differences is gender. Gender defines many roles and responsibilities of an individual and also specifies the functioning, attitudes, beliefs and many other physiological as well as the psychological attributes. The variation in the attitude of an individual towards technology on the basis of his gender is, therefore, a very genuine reason. The male students have more favorable attitude towards computer as compared to their female counterparts (Abouserie, & Moss, 1992; Kalanda, 2005; Sacks, Bellisimo, & Mergendoller, 1993). However, in a contradictory finding Ray, Sormunen, & Harris (1999) states that the attitude of females towards technology is much more positive than the male participants.

The cognitive style of students (field dependants/ field independents) is found to be another factor influencing their attitude towards the use of technology in education (Abouserie, & Moss, 1992). However, Altun (2003) and Alomyan, & Au (2004) found no positive relationship between students' cognitive styles and their attitude towards use of technology in education.

Kalanda (2005) studied the factors influencing attitude of students towards technology. He found that the attitude of the students towards technology had a

significant positive correlation with the method of the teaching adopted by the teacher, the effectiveness of his teaching and the support provided by the teacher in learning. The difference was also found on the basis of the students' own characteristics like learning styles and self confidence. The students having good learning styles and more confidents had positive attitude towards technology. Classroom environment which included satisfaction, friendship and support, also was the predictor of attitude of students towards technology.

Papp (1998) conducted a survey and found that the major factors responsible for variation in students' attitude towards technology were knowledge about technology, technology literacy perception, importance of the technology and the desire to learn technology.

Khunyakari, Mehrotra, Natarajan, & Chunawala (2009) found that students of India had a positive attitude towards technology. Students were of the view that the knowledge of technology would help them to get a better place in the job market in future. They were found interested to work with technology and viewed that it would make their lives easy. Students agreed that the technology had much positive effects than the negative ones.

Justification of the Study

In the new phase of the knowledge revolution the source of knowledge has shifted from a one source to different sources. In other words, we can say that there is a decentralization of the knowledge source. This has an overall impact on the development of learning abilities among the children. The pace of technological revolution and emergence of a knowledge society can change the traditional role of the teacher and the students. Traditionally, the teacher used to be the source of knowledge for the students. But in modern time teachers – with a changed and extended role – are central to the way technology is adopted and used at the classroom and student level. The teacher must play a central and crucial management role regarding ICT in schools. The teacher becomes manager of the learning environment – a creative, interesting, demanding and professionally rewarding role. This expanded role for the teacher in a changed learning environment has

considerable resource implications, in terms of staffing levels and professional development needs. Teachers need to modify their pedagogy dramatically and on a continuing basis, whereby they will become for their students role models for lifelong learning.

But the use of technology by teacher in education, in general and in teaching, in particular, depends strongly upon their support and attitudes. It has been suggested that if teachers believed or perceived proposed computer programs as fulfilling neither their own or their students' needs, they are not likely to attempt to introduce technology into their teaching and learning. Among the factors that affect the successful use of computers in the classroom are teachers' attitudes towards computers. Attitude, in turn, constitutes various dimensions. Some examples of these are perceived usefulness, computer confidence, training, gender, knowledge about computers, anxiety, confidence, and liking. The present study was, therefore, undertaken to examine the attitude of teachers towards use of technology in teaching.

Statement of the Problem

Attitude of Teachers towards the use of Technology in Teaching

Operational Definitions

☐ **Attitude:** Attitude is the positive or negative degree of effect associated with a certain subject. In the present study attitude refers to persistent tendency of secondary school teachers towards the use of technology in teaching.

☐ **Teachers:** In the present study the teachers refer to working in the govt and private schools at primary, secondary and senior secondary levels of education.

☐ **Technology:** Technology, here, refers to diverse set of technological tools and resources used to communicate, and to create, disseminate, store, and manage information. These technologies include computers, the Internet, broadcasting technologies like radio and television, telephone etc.

Objectives

1. To study the attitude of teachers towards the use of technology in teaching.

2. To study the difference between attitude of male and female teachers towards the use of technology in teaching.

3. To study the difference between attitude of teachers towards the use of technology in teaching in relation to their teaching experience.

Hypotheses

1. The teachers have favorable attitude towards the use of technology in teaching.

2. There exists no significant difference between the attitude of male and female teachers towards the use of technology in teaching.

3. There exists no significant difference between the attitude of teachers towards the use of technology in teaching in relation to their teaching experience.

Research Design

The present study was aimed to study the attitude of secondary school teachers towards the use of technology in teaching. For this purpose Descriptive Survey Method was used.

For the purpose of data collection a sample of 100 school teachers was drawn from 10 schools of Nurpur and Jawali Blocks of Distt Kangra by using convenient sampling technique.

As the purpose of the present study was to study the attitude of secondary school teachers towards the use of Information and Communication Technologies (ICT) in teaching, therefore researcher used a self constructed Likert type attitude scale. A positive item weighed score of 5 for Strongly Agree (SA), 4 for Agree (A), 3 for Undecided (U), 2 for Disagree (D) and 1 or Strongly Disagree (SD) and a negative item weighed score of 1 for Strongly Agree (SA), 2 for Agree (A), 3 for Undecided (U), 4 for Disagree (D) and 5 for Strongly Disagree (SD). The maximum score of the scale could be 260.

Analysis and Interpretation of Data

The hypotheses-wise analysis and interpretation of data is as following.

☐ **Hypothesis 1:** The secondary school teachers have favorable attitude towards the use of technology in teaching.

Table 1: Frequency and Percentage of Teachers with Different Levels of Attitude towards the Use of Technology in Teaching

Class intervals	Frequency (f)	Percentage
250-260	4	} 25%
240-250	5	
230-240	2	
220-230	6	
210-220	18	
200-210	**43**	**43%**
190-200	13	} 32%
180-190	8	
170-180	4	
160-170	4	
150-160	3	
N = 100		

It is quite clear from the table 1 that 25% of the secondary school teachers have favorable attitude towards the use of technology in teaching while 32% of the secondary school teachers have unfavorable attitude towards the use of technology in teaching. The level of attitude of 43% of the secondary school teachers towards the use of technologies in teaching is moderate.

Thus, the hypothesis- the secondary school teachers have favorable attitude towards the use of technology in teaching stands rejected.

☐ **Hypothesis 2:** There exists no significant difference between the attitude of male and female secondary school teachers towards the use of technology in teaching.

Table 2: Significance of Difference between Mean Attitude Scores of Male and Female Teachers towards the Use of Technology in Teaching

Gender	N	Mean	S.D.	't' value	Interpretation
Male	50	207	13	1.65	Not Significant at 0.05 Level
Female	50	202	17		

Table 2 shows that the mean score of male teachers is 207 and S.D. is 13. The mean and S.D. of female teachers are 202 and 17 respectively. The 't' value is 1.65 which is less than the corresponding table value at 0.05 level. From this it is inferred that the gender variation does not exist in the attitude of secondary school teachers towards the use of technology in teaching.

Thus, the hypothesis- there exists no significant difference in the attitude of male and female secondary school teachers towards the use of technology in teaching stands accepted.

❑ **Hypothesis 3:** There exists no significant difference between the attitude teachers towards the use of technology in teaching in relation to their teaching experience.

Table 3: Significance of Difference between Mean Attitude Scores of teachers towards technology in relation to their teaching experience

Teaching Experience	N	Mean	S.D.	't' value	Interpretation
Less than 10 years	48	204	13		Not Significant at 0.05 Level
More than ten years	52	206	17	0.58	

Table 3 depicts that the mean score of teachers having teaching experience less than 10 is 204 and S.D. is 13. The mean and S.D. of teachers having teaching experience more than10 years are 206 and 17 respectively. The't' value is 0.58 which is less than the corresponding table value at 0.05 level.

Thus, the hypothesis: There exists no significant difference between the attitude teachers towards the use of technology in teaching in relation to their teaching experience stands accepted.

Educational Implications

While conducting the study, the investigator came to know the fact that most of the teachers do not make use of Information and Communication Technologies (ICT) in teaching due to technological phobia. So there is a need for teachers to improve their skills through frequent use, and practice, in order for them to successfully use any technology in teaching. This is because there is no reason to believe that the technology evolution will stop. Therefore, training programmes must be added, removed or revised, as new technologies evolve.

Education is always concerned with the development of the potential of individuals for the future, not only among students but also among teachers. Therefore, teachers must understand that learning how to use computers does not play a part only in accumulating knowledge and new skills, but also that a greater part of learning is the result of trial-and-error endeavours in normal life. Therefore, teachers ought to have the courage to try new skills without apprehension, so that they are able to act as agents of change to fulfil the new objectives of teaching in the age of technology.

By providing information on new technological developments and opportunity of application periodically to teachers can make them develop more positive attitudes towards technology and thus increase the quality of education through more active and effective use of technologies concerning education and training.

Teachers can be supplied with a variety of technological tools and computer especially that they can get benefit in times of school and out of school with the condition of taking them back in each term. In this context, the teachers can follow technology and develop their attitudes towards technology; and in parallel, the removal of at least one of the obstacles in the use of technology and education may be provided.

References

Abouserie, R. and Moss, D. 1992. Cognitive style, gender, attitude toward computer assisted learning. *Educational Studies* **18**(2): 151-161.

Altun, A. 2003. The relationship between teacher trainees' attitudes toward computers and their cognitive styles. *Turkish Online Journal of Educational Technology* **2**(1). Retrieved from http://www.tojet.sakarya.edu.tr/archive/v1i2/arif3.htm.

Alomyan, H. and Au, W. 2004. Exploration of instructional strategies and individual difference within the context of web- based learning. *International Education Journal* **4**(4): 86-91.

Barker, F. and Yeates, H. 1985. *Introducing computer assisted learning*. England: Prentice-Hall International.

Gardner, D.G., Dukes, R.L. and Discenza, R. 1993. Computer use, self-confidence and attitudes: A causal analysis. *Computers in Human Behavior* **9**(3): 427-440.

Isman, A. and Dabaj, F. 2004. Attitudes of students towards internet. *Turkish Online Journal of Distance Education* **5**(4). Retrieved from https://tojde.anadolu.edu.tr/tojde16/articles/dabaj.htm

Kalanda, K. 2005. *Factors influencing college students' attitude towards technology*. Unpublished master's dissertation, University of South Africa. Retrieved from http://uir.unisa.ac.za/bitstream /handle/10500 /1531/ dissertation.pdf?sequence=1

Khunyakari, R., Mehrotra, S., Natarajan, C. and Chunawala, S. 2009. *Studying Indian middle school students' attitudes towards technology*. Paper presented at International Conference to Review Research in Science, Technology and Mathematics Education, Homi Bhabha Centre for Science Education, Mumbai.

Papp, R. 1998. Student perception & knowledge about information technology: A computer attitude and experience survey to measure changes. *Journal of Education for Management Information Systems* **5**(1): 54-62.

Ray, C.N., Sormunen, C. and Harris, T.M. 1999. Men's and women's attitudes toward computer technology: A comparison. *Office Systems Research Journal* **17**(1): 1-8.

Sacks, C., Bellisimo, Y. and Mergendoller, J. 1993. Attitudes toward computers and computer use: The issue of gender. *Journal of Research on Computing in Education* **26**: 257-269.

Sarfo, F.K., Amartei, A.M., Adentwi, K.I. and Brefo, C. 2011. Technology and gender equity: Rural and urban students' attitudes towards information and communication technology. *Journal of Media and Communication Studies* **3**(6): 221-230.