

A Study of Computer Phobia among Prospective Teachers

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Abstract

Computer technology has revolutionized the Indian educational system. The main goal of computer in education is to enhance the teaching – learning process, but computer phobia is one of the major obstacles. In the present study, the researchers have made an attempt to find out computer phobia among the prospective teachers and also suggested some measures to remove this phobia among prospective teachers.

Keywords: Prospective Teachers, computer, computer phobia

Introduction

ICT is the most important innovation in the field of education (Saxena&Pundir, 2013). With the extraordinary growth of computer technology, much greater attention has been paid to educational technologies in teaching and learning (Talebinezhad and Abarghoui, 2013). As a result, educational system has made a dramatic progress in general and teacher education in particular. Teacher education is considered as an integral part of educational scenario. Teacher quality depends on several factors like teachers' status, remuneration, conditions of work and professional education (NCFTE, 2009). In the present era, the professional development of a teacher is not possible without having knowledge of using digital technology in education. Many new technological devices are added to strengthen the teaching – learning process. Integrating computer technologies into education is a large investment (Bhadange *et al.*, 2014). In an educational context, the scope of computer is very wide. It is being used for administration, curriculum development, distance education, evaluation etc. But in teaching – learning process, the use of computer opened a new arena. It has a great potential to improve existing teaching – learning methods. Computer technology is an efficient tool to improve the educational process, but

despite of its many advantages the integration of computer technology in daily classroom practices has become problematic due to psychological barriers like computer phobia (Seyyedrezaie, 2013). As the use of computer is increasing in the educational system, the teacher must be skilled in integrating computer into classroom activities. The teacher is considered as a changing agent for students but still all teachers do not feel comfortable with computer use in daily classroom activities. Some of them face the problems like sweating in palms, increase in heart beat, restlessness, fear of electric shock etc. (Saxena& Kaur, 2014). Computer phobia is a major constraint to the utilization of computers. Jay (1981) defined computer phobia as resistance to talking about computers or even thinking about computers, fear or anxiety toward computers, and hostile or aggressive thoughts about computers. The outlook of the teacher towards technology, how they respond to it, how they present it, how it help to achieve their vision of teaching and learning, will affect the future accomplishment of technology (Roblyer, 2003). Teachers are expected to teach with innovative methods of teaching like Computer Assisted Instructions and using computer while teaching. But at the same time teachers are facing the technological as well as psychological challenges like computer phobia. Computer phobia and computer anxiety interchangeably used to describe the fear of impending interaction with a computer that is disproportionate to the actual threat presented by computer (Chau *et al.*, 1999; Rosen and Weil, 1992). The integration of computer into classroom activities is very less due to computer phobia. Many studies (Rosen and Weil, 1992; Chen, 2012; Gihar and Tyagi, 2012) shown the existence of computer phobia experienced by teachers while interacting with computers. The effect of independent variables like gender, computer experience, teacher training programs, stream etc. have been studied on computer phobia.

Colley *et al.*, (1994) and Okebukola (1993) reported that male had lower level of computer anxiety. Rosen and Weil, (1995); Busch,(1995); Bozionelos, (1996); Chau *et al.*, (1999) concluded that female were more computer anxious than males. Mullan (1990) found that men had less computer anxiety than women and computer experience and in-service training decreases computer anxiety. McIlray *et al.*, (2001) also supported Mullan (1990) and revealed that females have a higher level of computer phobia. On its contrary Loyd *et al.*, (1987) and Siann *et al.*, (1990) concluded that females had lower computer anxiety level, whereas some researchers (Dyck *et al.*, 1994; Compton *et al.*, 2003) could not found significant difference between gender and computer anxiety. As far as teachers and teacher trainees are concerned, Chen (2012) reported that teachers have moderate to high computer phobia and found that the teachers who frequently used computers shown lower computer phobia. Sharma and Jyoti (2009) concluded that the teacher trainees were more computer phobic than management students.

Objectives

The present study was based on following objectives:

- To compare computer phobia between male and female prospective teachers.
- To compare the effect of locality i.e. rural and urban on level of computer phobia among prospective teachers.

- To compare computer phobia of prospective teachers on the basis of streams i.e. Humanities and Science.
- To give suggestions to overcome computer phobia among prospective teachers.

Hypotheses

To draw the meaningful results from the present study, the following null hypotheses were framed:

- There is no significant difference between male and female prospective teachers as far as computer phobia is concerned.
- There is no significant difference between rural and urban prospective teachers as far as computer phobia is concerned.
- There is no significant difference between humanities and science stream prospective teachers as far as computer phobia is concerned.

Methodology

In the present study, the descriptive survey method was used to collect the data. The sample consisted of the 97 prospective teachers having 76 males and 21 females. Purposive sampling technique was used to conduct the present study.

Tool Used

To collect the data for present study computer phobia scale developed by Saxena (2010) was used. The scale has 28 items spread over three dimensions i.e. Individual Constraints, Individual Propellants and Ease of Handling computers. Each item has five possible alternative responses. The items were scored as Strongly Disagree = 5, Disagree = 4, Undecided = 3, Agree = 2, Strongly Agree = 1 and reverse procedure was followed in case of negative items given in the scale.

Analysis of data

The collected data were analyzed with the help of mean, SD and 't' test.

Table 1. Mean and SD Scores of Male and Female Prospective Teachers on different dimensions of Computer Phobia Scale

S No	Dimensions	Male Prospective Teachers (N=76)		Female Prospective Teachers (N=21)		t- test (df=95)
		Mean	SD	Mean	SD	
1	Individual constraint	21.86	5.34	25.37	6.55	2.26**
2	Individual Propellants	21.38	3.61	24.75	6.76	2.20**
3	Ease of Handling Computer	17.57	5.99	16.75	5.73	0.58
4	All Dimensions	60.80	11.71	66.87	12.85	1.95

*Significant at 0.01 level of Significance ** Significant at 0.05 level of Significance

An analysis of Table 1 shows that male prospective teachers differ significantly from their female counterpart on the Individual constraint dimension ($t = 2.26, p=0.05$) and Individual Propellants dimension ($t=2.20, P=0.05$) of computer phobia scale. On its contrary, gender does not have any significant difference on Ease of Handling Computer dimension of computer phobia scale. On overall computer phobia scale, it was found that although male and female prospective teachers statistically do not differ significantly, but as far as mean scores on a computer phobia scale is concerned, the female prospective teachers had scored higher mean value (66.87) in comparison to their male counterpart (60.80). It shows that the female prospective teachers had more computer phobia than male prospective teachers. It may be possible that females don't get sufficient time to learn computer skills besides having facilities.

Table 2. Mean and SD Scores of Urban and Rural Prospective Teachers on different dimensions of Computer Phobia Scale

S. No.	Dimensions	Urban Prospective Teachers (N=14)		Rural Prospective Teachers (N=83)		t- test (df=95)
		Mean	SD	Mean	SD	
1	Individual constraint	21.36	6.19	25.15	6.39	2.11*
2	Individual Propellants	22.14	3.79	24.34	6.64	1.76
3	Ease of Handling Computer	15.86	4.04	17.11	6.02	0.99
4	All Dimensions	59.36	10.53	66.60	12.96	2.99**

*Significant at 0.01 level of Significance ** Significant at 0.05 level of Significance

The data presented in Table 2 reveals that the urban prospective teachers differ significantly from rural prospective teachers on the individual constraint dimension of computer phobia scale ($t=2.11, p=0.05$). The table further reveals that they do not differ in individual propellants and ease of handling computer dimensions of computer phobia scale. On overall computer phobia scale urban prospective teachers differ significantly from rural prospective teachers ($t=2.99, p=0.01$). Rural prospective teachers had

scored higher mean value (66.60) than the urban prospective teachers (59.36). It indicates that rural prospective teachers had higher computer phobia than urban prospective teachers. It may be because of that the computer facilities in urban areas are more as compared to rural areas.

Table 3. Mean and SD Scores of Humanities and Science Stream Prospective Teachers on Computer Phobia Scale

S. No	Dimensions	Prospective Teachers of Humanities Stream (N=78)		Prospective Teachers of Science Stream (N=19)		t- test (df=95)
		Mean	SD	Mean	SD	
1	Individual constraint	25.36	6.49	21.53	5.25	2.72**
2	Individual Propellants	24.15	6.72	23.47	4.66	0.52
3	Ease of Handling Computer	17.09	5.66	16.26	4.49	0.50
4	All Dimensions	66.60	13.09	61.26	11.08	1.82

*Significant at 0.01 level of Significance ** Significant at 0.05 level of Significance

A close look on the table-3 indicates that Humanities and Science Stream Prospective Teachers differ significantly on the Individual constraint dimension ($t=2.72$, $p=0.01$) whereas they do not differ in other dimensions of computer phobia scale i.e. Individual Propellants and Ease of Handling computer dimension. As far as overall computer phobia scale is concerned, it is concluded that humanities and science stream students do not differ significantly, but mean score of Humanities prospective teachers (66.60) is higher than science prospective teachers (61.26). It indicates that humanities prospective teachers have more computer phobia than Science prospective teachers. The probable cause behind this may be that the educational background of humanities prospective teachers is different as compared to science stream prospective teachers.

Findings

The following findings were emerged out from the study:

- The first null hypothesis of no significant difference between male and female prospective teachers in respect to computer phobia is partially accepted and partially rejected. However the finding shows that the female prospective teachers had more computer phobia than male prospective teachers.
- The second null hypothesis of no significant difference between urban and rural prospective teachers in respect to computer phobia is partially accepted and partially rejected. The result indicates that rural prospective teachers had higher computer phobia than urban prospective

teachers.

- The third null hypothesis of no significant difference between prospective teachers of humanities stream and science prospective teachers in respect to computer phobia is rejected. It is revealed that humanities prospective teachers had more computer phobia than Science prospective teachers.

Discussion

The main purpose of this study was to investigate computer phobia among prospective teachers. The study concluded that the female prospective teachers have more computer phobia than male prospective teachers, rural prospective teachers have higher computer phobia than urban prospective teachers and humanities prospective teachers had more computer phobia than science prospective teachers. The study is supported by Bradley and Russel (1997), Todman (2000) and Halder&Chaudhuri (2011). The probable cause for such situation may be that males are more exposed to technology even at the leisure time. They have more interest in technology. Further, it may be possible that technological facilities are not much available in rural areas so the resources like computer are not easily accessible to them.

Suggestions

With the passage of time the methods to support education are being changed. The advent of ICT has shifted education from teacher centered to learner centered, but teacher education has its own importance. Only teachers can contribute to prepare technology based society by nurturing computer skills among the students. The need of hour is that the students should be motivated to use computers more in their studies as well as in their daily lives (Saxena&Bala, 2014). But it is possible only when teachers are themselves capable of using ICT skills in the educational process. In this technological era, it is obvious that if ICT will be used in teaching-learning process, rather overall development of teacher candidates, the day is not far when we produce techno friendly teachers (Saxena, 2013). The following are the suggestions to reduce computer phobia among prospective teachers:

- In order to reduce barriers of ICT like computer phobia, use of computers should be made mandatory in teacher education programs.
- Students learn as the teacher teaches, so teacher educators themselves should integrate computer in their own teaching to motivate prospective teachers to computer use.
- Prospective teachers should be motivated to prepare lesson plans with the help of the computer so that computer skills can be developed among them.
- More and more access and practical knowledge of computer operations should be provided to reduce computer phobia among prospective teachers.
- By organizing capsule programs and computer workshops, hands-on experience can also help to overcome computer phobia.

Despite best efforts the use of Information and Communication Technology in Indian education lagging behind our expectation (Barot, 2013). The education system of developing countries like India needs to produce computer literate teachers to meet the demand of present scenario. Since Information and communication Technology has been integrated in B.Ed. curriculum as a core subject which focuses on theoretical knowledge only. It is suggested to curriculum developers and policy makers that it also touches practical aspect of ICT so that computer skills can be develop among prospective teachers as the lifelong learning is becoming a part of modern life (Nargini&Singh, 2011) but computer phobia has become a challenge for integration of computer in education,different orientation programs can help to overcome it, but still teachers themselves have a need to take initiatives to learn computer skills and knowledge to overcome psychological barriers like computer phobia.

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