Attitude of Student-Teachers towards the Use of ICT and its Impact on their Academic Achievement

KEYWORDS   ICT, Student-Teachers, Computer, Academic Achievement

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ABSTRACT *The focus of the paper was to explore the attitude of the student-teachers towards the use of ICT and its impact on their academic achievement in Agra city. Computer Attitude Scale (Khatoon & Sharma, 2000) was used to study the attitude of the student-teachers towards the use of ICT. Purposive sampling technique was used to select the college and random sampling to select the desired sample. The findings of this study conducted indicate that the student-teachers had positive attitude towards the use of ICT and there was no significant impact of the attitude of student-teachers on their academic achievement. The paper highlights the necessity for developing positive attitude towards the use of ICT among the student-teachers so that they can keep themselves abreast of the latest technologies and later on integrate in their professional lives as per the demand.*

Introduction

Teaching has become one of the most challenging professions in our society as knowledge is expanding rapidly and much of it is available to students as well as teachers at the same time (Perraton, Robinson & Creed, 2001). As new concepts of learning have evolved, teachers are expected to facilitate learning and make it meaningful to individual learners rather than just to provide knowledge and skills. Recent developments of innovative technologies have provided new possibilities to teaching profession but at the same time have placed more demands on teachers to learn how to use these technologies in their teaching (Robinson & Latchem, 2003). Simply having ICT in schools will not guarantee their effective use. Regardless of the quantity and quality of technology placed in classrooms, the key to how those tools are used is the teacher; therefore teachers must have the competence and right attitude towards technology (Kadel, 2005). Attitudes refer to one's positive or negative judgment about a concrete subject. Attitudes are determined by the analysis of the information regarding the result of an action and by the positive or negative evaluation of these results (Ajzen & Fishbein, 1980). More positive attitudes towards the computer were associated with a higher level of computer experience (Dyck & Smither, 1995; Teo, 2008). It is also reported that attitude of pre-service and in-service teachers towards computer and technology skills can be improved by integrating technology into teacher education (Zammit, 1992). Findings have revealed a significant relationship exist between computer attitude and its use in institutions for pre-service teachers (Khine, 2001). Thus, there is a need to address this issue.

The present study is an endeavor to seek answer to some of the important questions like:

What is the impact of stream of education on attitude to use ICT? : How does stream of education determine the attitude towards use of ICT? : What is the impact of attitude of student-teachers towards use of ICT on their academic achievement?

If significant and systematic study is conducted to answers these questions, student-teachers can be guided regarding use of ICT for their better academic achievement.

Objectives of the study

Gaining an appreciation of pupil-teachers' attitude towards ICT may provide useful insight into the future of technology integration, acceptance and usage in teaching and learning in Indian teacher education institutions and other developing countries (Hiremath, 2011; Teo, 2008). In the light of this the main objectives of the study were-

1. To study the attitude of student-teachers of science and arts streams towards the use of ICT.
2. To compare the attitude of student-teachers of science and arts streams towards the use of ICT.
3. To study the impact of attitude of student-teachers of science and arts streams towards the use of ICT on their academic achievement.

Methodology

By its nature the study falls under the category of descriptive research. Thus, survey method was adopted to determine the status of present phenomenon.

Sample

Researcher after taking cognizance of the nature of the sample used purposive sampling to select the college. Random sampling technique was adopted to select a sample of 100 student-teachers where in 50 student-teachers belonged to science stream and 50 student-teachers to arts stream.

Research tool

Computer Attitude Scale (CAS) (Khatoon & Sharma, 2000) was used to collect the required information. The reliability of the scale determined through split half reliability coefficient is 0.86. Also reliability of the scale determined through Kuder- Richardson formula is 0.93. Thus, the instrument is internally consistent.

The scale has content validity which was ensured through rational logical analysis of the computer experts and computer teachers in questionnaire construction. Also construct validity ensured through the extent to which the item correlates with the total score.

Statistical techniques

In the present study Mean, Standard Deviation and t' test has been used

Data Analysis

The scores were analyzed using Microsoft Office Excel 2007. The mean scores of student-teachers of science stream were 83.18 and of arts stream were 81.72. This means that the student-teachers of both the stream had positive attitude towards the use of ICT as the score on CAS falls between the range of 66-99 which is in accordance to Dr Tahira Khatoon and Manika Sharma. The t-value (t=1.02 p<.01) is less than the table value 2.63 at 0.01 level of significance with 98 degrees of freedom and hence is insignificant. Thus, accepting the null hypothesis it is inferred that there exist no significant difference between the attitude of student-teachers of science and arts stream towards the use of ICT. (Table 1)

Table-1

Significance of difference between attitude of student-teachers of science and arts stream towards the use of ICT

Student-Teachers	Mean	SD	t value
Science Stream	83.18	6.63	1.02*
Arts Stream	81.72	7.68	

*p <0.01

For further study the researcher divided 50 student-teachers of science stream and that of arts stream into three groups- high, moderate and low positive attitude towards the use of ICT.

Table-2

Significance of impact of attitude towards the use of ICT on academic achievement of student-teachers of science stream.

Group(N=50)	Mean Academic Achievement (CGPA)	SD	t value
High Positive Attitude (N=17)	8.04	0.67	1.87*
Moderate Positive Attitude (N=16)	7.56	0.80	
Moderate Positive Attitude (N=16)	7.56	0.80	0.07*
Low Positive Attitude (N=17)	7.58	0.84	
High Positive Attitude (N=17)	8.04	0.67	1.77*
Low Positive Attitude (N=17)	7.58	0.84	

*p<0.01

It is inferred from the above table that the calculated t value (1.87, 0.07, 1.77, p<.01) in all the three cases is less than the table value 2.75 at .01 level of significance with 31 degrees of freedom and hence is insignificant. Thus, accepting the null hypothesis it can be concluded that there exist no significant impact of attitude towards the use of ICT on academic achievement of student-teachers of science stream.

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