



Ia Study On Secondary School Teachers' Attitude Towards Using New Technologies In Education

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Abstract:

: Integration of new technologies into education has been an important concern in many countries. Technology tools have become a part and parcel of our life. The introduction of technology to the field of education has completely changed the conventional way of teaching and learning by modifying and making the enormous use of technology in the field of education. In order to make the best use of our resources, it is essential that all persons engaged in the educational enterprise and especially the teacher should understand adequately the dynamics and mechanism of educational technology and provide the best possible education to the students. Also the favourable attitude of teachers' towards using new technology in teaching will certainly make teachers use them in appropriate situations in teaching and thus measuring of teachers' attitude towards using new technology in teaching is very much needed.

The purpose of this study was to reveal secondary school teachers' attitude towards using new technology in education and explore the relationship between teachers' attitudes and factors which are related to teachers' personal characteristics. In order to collect data, an instrument (Attitude Towards Using New Technology Scale) developed by Rajasekar was used and 45 secondary schools were taken. Out of which 300 teachers were taken as respondents. In data analysis descriptive statistics were used to describe and summarize the properties of the mass of data collected from respondents. The results indicate that secondary school teachers have positive attitude towards using new technology. Also revealed no significant differences between attitude towards using new technology of secondary schools teachers in term of gender. But it differs regarding age. It is hoped that the outcomes of this study can be used in shaping innovational practices in the secondary education system.

PAPER PRESENTED IN INTERNATIONAL EDUCATION MEET 2012- EDUCATION FOR GLOBAL EXCELLENCE INTRODUCTION :

New technology and their implications for education have excited the minds of educators, politicians and innovators alike all over the world as early as the beginning of the 19th Century. Integration of new technologies into education has been an important concern in many countries. Technology tools have become a part and parcel of our life. The integration of ICT into education has been assumed as the potential of the new technological tools to revolutionize an outmoded educational system (Albrini, 2006).

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In the last 20 years, initiatives, projects and implications related to use of information and communication technologies into education motivate teachers to gain necessary knowledge and skills in using ICT in their instruction. ICT plays a critical role in information societies' educational systems. Hence, most countries around the world are focusing on approaches to integrate ICT in decision- making, handling of dynamic situations, working as a member of a team, communicating effectively (Anderson & Weert, 2002).

The introduction of technology to the field of education has completely changed the conventional way of teaching and learning by modifying and making the enormous use of technology in the field of education. In order to make the best use of our resources, it is essential that all persons engaged in the educational enterprise and especially the teacher should understand adequately the dynamics and mechanism of educational technology and provide the best possible education to the students. Also the favourable attitude of teachers' towards using new technology in teaching will certainly make teachers use them in appropriate situations in teaching and thus measuring of teachers' attitude towards using new technology in teaching is very much needed.

A number of research initiatives have been carried out recently which focused on teachers' and instructors' perceptions of technology use in education. Some of the notable ones are outlined below. Research carried out in the United States by Brill and Galloway (2007) to examine lecturer use of instructional technology and their perceptions of such technology found that instructors perceived technology to have had beneficial impacts on the instructional setting. Levin and Wadmany's (2006) research into teacher beliefs and how they affect teacher practice within a technology-rich classroom environment has also added valuable knowledge in this area. They carried out a qualitative study of teachers within a school in central Israel that had recently implemented major changes in order to have technology-based teaching and learning. They found that teachers' beliefs regarding teaching and learning changed over three years within a technology-rich environment, and these changes had manifested in modified classroom behaviour. Equally important, they found that as teachers' beliefs changed, so did their perceptions of how technology fit into the process of teaching and learning. Therefore, the purpose of this study was to reveal secondary school teachers, attitude towards using new technology in education & explore the relationship between teachers' attitude and factors which are related to personal characteristics. The objectives of the study are: (1) To study the effect of teachers attitude towards Information and communication Technology with respect to the gender. (2) To study the effect of teachers attitude towards Information and communication Technology with respect to age. (3) To study the effect of teachers attitude towards Information and communication Technology with respect to teachers' computer experience. (4) To study the effect of teachers attitude towards Information and communication Technology by computer ownership at home. Hypothesis of the study: (1) There is no significant difference between male and female teachers' attitude towards Information and Communication Technology. (2) There is no significant difference between attitude towards Information and Communication Technology by age. (3) There is no significant difference between attitude of teachers by their computer experience. (4) There is no significant difference between attitude of teachers by computer ownership at home.

Design of the study: The aim of this study was to find out teachers attitude towards using new technologies in education and then explore the relationship between teachers' attitude on the other variables like gender, age & computer experience. For this purpose the descriptive statistics were used to describe & summerise the properties of the mass of data collected from respondents.

Population and Sample: The population for the study was all teachers, who are working in secondary schools in North Goa District (Goa State). Sampling was done in order to get school representation, teacher representation. For the purpose of random sampling 45 secondary schools were drawn from among government, private aided & private unaided.

TOOL AND DATA COLLECTION:

In order to collect data an instrument 'Attitude towards using new technology scale' developed by Rajasekar was used in the way so that researcher could have both qualitative & quantitative data and information.

DATA ANALYSIS:

The data were analyzed via SPSS 13.0 for Windows. Descriptive statistics were used to describe and summarize the properties of the mass of data collected from the respondents. Parametric statistics like ANOVA and t-test pair-wise comparison were conducted to analyze any differences between teachers' attitudes and other dependent variables. A level of 0.05 was established a prior for determining statistical significance.

HYPOTHESIS1:

There is no significant difference between male and female teachers attitude towards Information and Communication Technology.

TABLE 1: t-test of teachers' attitude towards Information & Communication Technology by gender.

Gender	N	Mean	SD	t	P	Significance
Male	150	4.18	0.468	-1.774	0.076	NS
Female	150	4.22	0.499			

INTERPRETATION:

The above table reveals that the tabled value (-1.774) is less than P- value(0.076) at 0.05 level. Hence hypothesis is accepted. Further it can be interpreted that there is no significant difference between male and female teachers attitude towards Information and Communication Technology.

HYPOTHESIS 2:

There is no significant difference between attitude towards Information and Communication Technology by age.

TABLE 2: t-test of teachers' attitude towards Information & Communication Technology by comparing teachers' ages.

Age group	N	Mean	SD	t	P	Significance
20-35	139	4.58	0.445	2.51	0.082	S
36-49	110	4.17	0.528			
50+	51	4.14	0.508			
Total	300	4.21	0.482			

INTERPRETATION:

the above table reveals that the table value (2.51) is greater than P- value (0.082) at 0.05 level. Hence the hypothesis is rejected. Further it can be concluded that there is a significant difference between the different age groups.

HYPOTHESIS 3:

There is no significant difference between attitude of teachers by their computer experience.

TABLE 3: t-test of teachers' attitude towards Information & Communication Technology by comparing teachers' computer experience.

Computer Experience	N	Mean	SD	t	P	Significance
0-1 year	56	4.16	0.419	2.855	0.056	S
1-3 years	110	4.19	0.429			
3-5 years	94	4.21	0.499			
5 + years	140	4.28	0.484			
Total	300	4.22	0.465			

INTERPRETATION:

The above table reveals that the tabled value (2.855) is greater than the P-value (0.056) at 0.05 level. Hence the hypothesis is rejected. It can be concluded that there is a significant difference between attitude towards Information & communication technology by different years of computer experience.

HYPOTHESIS 4:

There is no significant difference between attitude of teachers by computer ownership at home.

TABLE 4: t-test of teachers, attitude towards Information & Communication Technology by computer ownership at home.

Computer Ownership	N	Mean	SD	t-value	P-value	Significance
Yes	192	4.25	0.476	4.175	0.128	S
No	108	3.75	0.586			
Total	300					

INTERPRETATION:

The above table reveals that the tabled value (4.175) is greater than P-value (0.128). Hence the hypothesis is rejected. Further it can be concluded that there is a significant difference between the attitude of teachers on Information & Communication Technology by ownership at home.

FINDINGS:

1) There is no significant differences between Information & Communication Technology attitudes of teachers in terms of gender. This would suggest that male and female teachers have the same perception about the use of Information & Communication Technology in education.

2) There is a significant difference between the teachers' attitude towards Information & Communication Technology with different age groups. Young teachers have more positive attitude (age group 20-35) and significantly differ than the teachers in other groups. In the research literature, there are different findings from different studies in terms of teachers' attitudes and teachers' age. For example, while some studies found that there is no significant relationship between teacher's age and attitudes (Massoud, 1991; Woodrow, 1992 & Handler, 1993), other studies found that teachers' ages have critical effects on the teachers' attitudes (Chio, 1992; Blankenship, 1998).

3) There is a significant difference between the teachers' attitude towards information & communication technology with computer experience. Teachers in fourth age group (5+ years) have more positive attitudes than the teachers in other groups. In the literature, positive correlations have been shown between various computer experiences and attitudes (Dupagne & Krendel, 1992; Levine & Donitsa-Schmidt 1998; Winter, Chudoba & Gutek, 1998; Smith, Caputi & Rawstorne, 2000; Yıldırım, 2000; Gaudron & Vignoli 2002). According to Gardner, Dukes & Discenza (1993), computers can play important role to reduce computer anxiety which is seen as a teacher resistance to integrate ICT in teaching and learning environment.

4) There is a significant difference between the teachers' attitude towards information & communication technology with computer ownership at home. Teachers who own the computers had more positive attitudes than those that did not. According to Wood, Putney & Cass (1997) study, computer ownership and access to computers were the best predictors of perceived computer competence. Monk, Swain, Ghrist & Riddle (2003) found that Egyptian teachers with personal computers have tended to concentrate on improving the quality of current practice, through better preparation and student testing, rather than introducing major, paradigmatic, changes to their teaching. Roussos (2007) found that computer ownership had a significant effect on the participants' computer attitudes. In particular, significant differences were evident for those who owned a computer in terms of positive computer attitudes.

CONCLUSION:

In this study, we investigated the teachers' Information & Communication Technology experiences, attitudes toward Information & Communication Technology and relationships between teachers' attitudes and the selected variables such as gender, age, computer ownership and computer experiences. Using Information & Communication Technology in education should not be understood as using it as a tool to transfer instructional material and rehearsal but as a medium for learning, discovering, sharing and creating knowledge. However, the infrastructure issues are given more importance than in improving learning and teaching (Becta, 2008) and often investment are done in the latest technologies without considering the target group's needs and interests (Albirini, 2006; Usun, 2004). Being the prime actors in implementing ICT in learning and teaching, teachers should be in the center of attention. They should be involved in all stages of the implementation and meanwhile be assured that this approach is advantageous over the previous one, is compatible with their teaching practices and they will be given any technical help and training. As a consequence of integrating Information & Communication Technology in education a change is expected to occur in the style of teaching and learning as noted by Harris et al (2002).

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