

## **A STUDY OF TEACHERS ATTITUDES TOWARDS ICT TEACHING PROCESS**

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**Abstract:** Understanding teacher's attitudes and beliefs about ICT is essential in designing effective computer science related courses. This study 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. Information society is mainly a consequence of continuing development in new technologies and requires people who use computer technologies. In this new era, educational systems seek to prepare teachers and students for the work force and computer literacy becomes vital in higher education. This is especially important for the Faculty of Computer Sciences. The purpose of this study is to examine the relationship between

1. Teacher's attitude towards ICT teaching and Student engagement in the class.
2. Teacher's attitude towards ICT teaching and teaching time required.
3. Teacher's attitude towards ICT teaching time and Student engagement in the class.

**Keywords:** ICT, ATICT, ATSE, ATITT, Teachers Attitude, PD.

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### **1. INTRODUCTION**

Effective ICT use in education increases teachers' training and professional development needs. For that adequate time must be allowed for teachers to develop new skills, explore their integration into their existing teaching practices and curriculum, and undertake necessary additional lesson planning, if ICTs are to be used effectively. However, ICTs can be important tools to help meet such increased needs, by helping to provide access to more and better educational content, aid in routine administrative tasks, provide models and simulations of effective teaching practices, and enable learner support networks, both in face to face and distance learning environments, and in real time or asynchronously.

ICT Enabling teachers to have access to multimedia learning resources, which support constructive concept development, will allow the teacher to focus more on being a facilitator to a learner by providing personal attention. Teachers use ICT to plan lessons more efficiently and more effectively. ICT increases efficiency in planning and preparation of work due to a more collaborative approach

between teachers. ICT enables teachers to cooperate more and share curriculum plans with colleges. It is suggested that successful implementation of ICT needs to change the teacher's attitude towards ICT in teaching.

### **2. TEACHERS' ATTITUDES TOWARDS ICT IN EDUCATION**

Recent studies show that, the successful implementation of the educational technologies depends largely on the attitudes of the educators. Especially, Israel (Klieger, Ben-Hur, & Bar-Yossef, 2010), Australia (Pierce & Ball, 2009), USA (Glazer et al., 2009; Hixon & Buckenmeyer, 2009; Liu & Szabo, 2009), Turkey (Goktas, Yidirim, & Yildirim, 2008) and Asia/Far East (Sang, Valcke, Braak, & Tondeur, 2010) based studies still consider the attitude of teachers towards ICT as an important issue. Numerous researchers (Atkins & Vasu, 2000; Gbomita, 1997; Moore & Benbasat, 1991; Roblyer & Knezek, 2003; Sugar, Crawley, & Fine, 2004) point out that, a teacher's attitude or belief are one of the several important human factors which has a significant impact on the computer adoption and the implementation of the technology in classroom. Bullock (2004) found that, the attitude of teachers is a major enabling/disabling factor in the adoption of the technology. Similarly, Kersaint at al. (2003) found that, the teachers with positive attitudes towards the technology feel more comfortable while using it and them usually incorporate it into their teaching activities. Therefore, the teachers' attitudes towards computers are one of the significant factors in enhancing

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the quality of computer usage for instruction (Yuen, Law, & Chan, 1999).

### 3. TECHNOLOGY INTEGRATION AND PROFESSIONAL DEVELOPMENT OF TEACHERS

Some models regarding technology integration emphasize the importance of teachers' attitudes towards the use of ICT in education. Negative attitudes of teachers and the limited knowledge of teachers about technology integration are found to be the main barriers for the technology integration in education (çakır & yıldırım, 2009; hew & brush, 2007). Since teachers' attitude towards ICT is one of the impendent factors for the technology integration its investigation) is not only helpful for a better understanding of the effects of PD programs but also very useful for future plans in this area. There are many studies evaluating the effect of PD programs on the attitudes of teachers towards ICT in education. Some of them indicates that PD programs had positive impact on attitudes of teachers towards using technology for education (christensen, 2002; galanouli, murphy, & gardner, 2004; karagiorgi & charalambous, 2006; seels, campbell, & talsma, 2003). intel teach program (ITP) aims to help teachers for integrating the technology into their lessons. Hence, via integrating technology in training skills of teachers, ITP aims not only helping teachers in problem solving but also promotes, critical thinking and collaboration skills of their students.

### 4. BARRIERS FOR TECHNOLOGY INTEGRATION

The investment in the educational technologies gained an increasing trend all over the world, the use of these technological facilities in learning environments also gained importance so the teachers are supposed to perceive the use of technology as a natural part of their profession in order to be able to conjoin these investments for enhancing the learning of students. The book of Turkish Ministry of National Education (MoNE) for the standardization of teachers claims that the teachers have to integrate information and communication technologies with teaching and learning processes. Besides, the teachers should not only point out how they use ICT at their teaching and learning environments in their lesson plans, but also use these technologies to support the student centered strategies (MoNE, 2009c). However, integrating technology into teaching cannot be achieved overnight. Several researchers indicate that the teachers are supposed to overcome some stages (Mills & Tincher, 2003; Proctor, Watson, & Finger, 2004; Russell, O'Dwyer, Bebell, & Tao, 2007; Yang & Huang, 2008). At first stages, the teachers tend to use the technology almost not at all, however later on; they consider the technology as an instrument which necessities to be taught.

As the use of technology increases, they tend to perceive it as an instrument to aid the instruction, rather than being a core educational topic (Hixon & Buckenmeyer, 2009). ICT training in the colleges is important. To achieve successful training we need to be aware of the user's attitudes toward computers (Zoltan & Chapanis 1982). On the other hand, Brown et al. (1978) suggest that exposure to computer related devices may be a factor in determining ones attitudes toward computers. A number of early studies investigated why teachers do not use computers in their teaching (Rosen & Weil, 1995; Winnans & Brown, 1992; Dupagne & Krendl, 1992; Hadley & Sheingold, 1993). Not surprisingly they found a list of inhibitors:

- 1) Lack of teaching experience with ICT;
- 2) Lack of on-site support for teachers using technology;
- 3) Lack of ICT specialist teachers to teach students computer skills;
- 4) Lack of computer availability;
- 5) Lack of time required to successfully integrate technology into the curriculum;
- 6) Lack of financial support.

Robertson et al (1996) argued that teachers' resistance to computer use was divided into several broad-based themes:

- 1) Resistance to organizational change;
- 2) Resistance to outside intervention;
- 3) Time management problems;
- 4) Lack of support from the administration;
- 5) Teachers' perceptions;
- 6) Personal and psychological factors.

Students have more positive attitudes towards their classes and learning when ICT use is included (Baker, Gearhart, & Herman, 1994; Kulik, 1994).

ICT may be used to support students to design and produce their own knowledge representations and thereby engage with powerful learning experiences (Berge & Collins, 1998)

### 5. TECHNOLOGY INTEGRATION

Technology integration refer to using computers to support traditional or prevailing methods of teaching, for example learning 'from' the computer through tutorials, drill and-practice, simulations and hypermedia applications (Morrison, Lowther & De Meulle, 1999; Reigeluth & Joseph, 2002). Rather, technology integration is seen as transcending traditional teacher centered pedagogies where

learners use the technology to learn 'with' and 'through' computers (Jonassen, Peck & Wilson, 1999). Hodgkinson-Williams (2006) and Du Plessis (2010) note that three types of integration are prevalent in South Africa. as follows:

**1. 'Learning about computers':** The first type is 'Learning about computers', focusing on implementation without integration. This approach often results in 'computer literacy' that merely involves using computer applications without any link to what is happening in the classroom.

**2. 'Implementation with integration to achieve traditional goals':** The second type refers to 'Implementation with integration to achieve traditional goals'. This type of so-called integration often results in learning 'from' the computer where the computer becomes a tutor and the result is that the computer becomes the transmitter of knowledge (see Jonassen, Peck & Wilson, 1999).

**3. 'Implementation with full integration within a constructivist learning space or context':** The third type is 'Implementation with full integration within a constructivist learning space or context'. This type of integration refers to learning 'with' or 'through' using computers (Jonassen, Peck & Wilson, 1999) is also referred to as the generative use or mode in which computers or ICT's are used as cognitive, mediational, or transformational tools (Hodgkinson-Williams, 2006). An analysis

## 6. HYPOTHESIS

In the Faculty of Computer Sciences at Smt.kasturbai Walchand College,Sangli.. The following hypotheses were tested.

**Hypothesis 1:** There is no statistically predictive effect of ICT on teaching time.

**Hypothesis 2:** There is no statistically predictive effect of ICT on student engagement.

## 7. METHOD AND DATA SOURCES

Subjects participating in this study were 80% teachers taking the ICT classes for BCS course in the faculty of Computer Science at Smt.kasturbai Walchand College,Sangli.All the teachers have completed their master degree in computer science. Total sample size was 30.

The attitude scales for ICT teaching (ATICT), attitude scales for student engagement in the class (ATSE), and attitude scales for ICT teaching time (ATITT) were developed by the researcher to assess teacher's attitudes toward ICT.

## 8. DATA ANALYSIS

To test out hypotheses, the Karl Pearson Coefficient was

used to determine the correlations of the selected variables such as attitudes of teachers toward ICT, Student engagement in the class and teaching time required for teaching to the class at the BSC course.

## 9. RESULTS

The following three variables were stated as;

Teacher's attitudes toward ICT (ATICT), Teachers attitudes toward student engagement in the class (ATSE), Teachers attitude towards teaching time (ATITT) in the BCS course. Simple regression analysis results were indicated significantly high and positive correlations between attitudes toward ICT teaching (ATICT) and teaching time in the class (ATITT) ( $r = 0.678$ ) Table 1. Also, it was found that there was a significantly high, and positive correlation between the student engagement in the class (ATSE) and teaching time (ATITT) ( $r = 0.561$ ) Table 1 .On the other hand, no correlation was indicated between attitude toward ICT teaching (ATICT) and student engagement in the class ( $r = 0.179$ ,  $p > 005$ ) Table 1. The result indicated that, the correlation coefficient between ICT teaching in class (ATICT) and attitude toward teaching time (ATITT) was a significant and negative ( $r = -0.678$ ) Table 1 therefore Hypothesis 1 was rejected.

Result revealed that, positive significant correlation was observed between the attitude toward ICT teaching in the class (ATICT) and student engagement in the class (ATSE) ( $r = 0.779$ ) Table 1. So, Hypothesis 2 was rejected.

**Table 1**  
Correlations Between Teachers Attitudes Toward (ATICT), (ATSE) and (ATITT) (N = 30)

Karl Pearson Correlation	ATICT	ATSE	ATITT
ATICT	1.000	0.779	-0.678
ATSE	0.779	1.000	--
ATITT	-0.678	---	1.000

## 10. CONCLUSION AND DISCUSSION

The results of this study indicated that there was a high and negative correlation between teachers attitude towards ICT teaching and teaching time in the class. It can be said that, ICT reduces time required for teaching. And the highly positive correlation between the attitude toward ICT teaching in the class (ATICT) and student engagement in the class (ATSE) shows that, The ICT will increase the student engagement in the class. Result of this study suggests that training of teachers in ICT is important issue that must be taken careful into consideration in conducting BCS courses. Effective ICT teaching methods increase the student engagement in the class and reduce teaching time. This study

understands ICT is essential in designing effective computer related courses.

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