



# Relationship between Computer Technology and Training, Teachers' Attitudes, Knowledge and Experience

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## ABSTRACT

There are some important factors that affect the use of computer technology in the classroom such as computer technology training, teachers' attitudes and knowledge and experience. These factors have been unfortunately overlooked in many EFL classrooms. This paper examines the relationship between computer technology and the above factors. This paper discusses computer technology training, explains teachers' attitudes and elaborates knowledge and experience. The review of literature indicates that if teachers want to use computer technology well they should be trained, have positive attitudes towards technology and knowledge and experience.

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## Introduction

One of the best means of teaching and learning languages is to use computer technology. It is a powerful instructional aid and provides great potential for language learning. Basic changes can be seen in the classrooms through using computer technology. Language teaching methodology has been changed by using electronic media. Teaching grammar, vocabulary, syntax, comprehension, developing interactive communication skills and creating writing activities can be done by means of computer technology (Becker, 2000).

Computer technology is an important educational tool in the classrooms because teachers can have easy access, have sufficient preparation, have enough freedom in the program and have personal beliefs and attitudes concerning student-centered method. High-quality education can be provided by computer technology (Becker, 2000).

Computer technologies that are used by teachers can be influenced by many factors either in their pre-service training or their personal lives. Whether teachers receive computer technology training in their undergraduate coursework or not is one of the important factors that impacts the use of computer technology in teachers' teaching methods (Koh & Frick, 2009).

If teachers are trained to use new computer technologies in their classroom, these technologies will develop higher-order learning (Brown & Warschauer, 2006). The learning of computer technology should be included in teachers' teaching methods and technological tools should be used by teachers to develop the necessary skills during their teaching programs (Brown & Warschauer, 2006).

There are many factors that encourage a teacher to use computer technology in his/her classroom. These factors include computer technology training, computer self-efficacy, personal computer technology use, positive teacher beliefs and attitudes towards computer technology and access to professional development in the computer technology. All of these factors are important in motivating a teacher to use computer technology. However, using computer technology in the

classroom by itself is not effective unless the teacher has a theory to model in instruction with (Fouts, 2000). In this section, the researcher explains computer technology training, teachers' attitudes and knowledge and experience in detail.

### Computer Technology Training

According to Becker et al., (1999) and Gobbo and Girardi (2001), there is a positive relationship between computer technology training and teachers' attitudes. The ways in which teachers include computer technology in their classrooms can be affected by training.

A study was done by Gobbo and Girardi (2001). The study examined teaching styles and computer technology integration in Italy. Based on the results, it was displayed that teachers' implementation of computer technology and their perception of their own and their students' motivation were determined by personal theories of teaching and the level of competence with computer technology.

Another study was conducted by Veen (1993). The daily teaching methods of four teachers were described towards the implementation of Information and Communication Technology (ICT) in their classrooms in Dutch. It was shown that teachers' attitudes about what should be taught and the way it should be taught were the most important factors that affected teachers' use of ICT. Skills pertinent to the teachers' competence in managing lessons were more important than computer related technical skills.

In order to become familiar with the new computer technologies, teachers should be given enough opportunity to use them effectively. A study entitled "teachers' use of computers to teach mathematics" was conducted by Mcalister et al., (2005). It was indicated that although many teachers had limited experience with computers, but they had positive attitudes towards using computer technology. Results also exhibited that teachers should be given more training and support in Information Technology (IT) and teachers should be valued as a role model for students.

According to Gulbahar (2008), two factors had significant impacts on the effective use of computer technology. They were lack of in-service training and inadequate technological infrastructures. Training and the attitudes of teachers towards CALL were discussed by many studies (Egbert, Paulis & Nakamichi, 2002; Jones, 2002; Ridgway & Passey, 1991; Warschauer, 2002).

Egbert, Paulis and Nakamichi (2002) conducted a study. Twenty English teachers took part in their sample. Surveys and follow-up interviews on computer technology use were used by them. The findings showed that the use of CALL by the teachers was prevented by the lack of time, support and resources.

The training of teachers in Egypt towards using CALL was examined by Jones (2002). The interesting outcome of this study was that teachers had the hardware and the software but lack the human ware. The significance of training for teachers was emphasized by Ridgway and Passey (1991) and it was displayed that the use of computers should be developed in teachers to be able to teach effectively.

According to Jones (2002), teachers should be informed users of computer technology and they should pay attention to the significance of computer technology training. Clark (2000) found that opportunities and training enable teachers to experience computer technology resources and learn how to use them in instruction and these are important for teachers to accept and use them.

The level of educational technology use in teaching English among language instructors was examined by Aydogdu (2001). The results obtained from this study showed that teachers who had training used educational technology resources in language instruction more than those who had not. Pre-service and in-service educational technology training programs was stressed for ELT teachers. It was also suggested that the existing training programs should give more emphasis to the pedagogical potential of educational technology resources.

Lack of insufficient teacher training is the biggest barrier for teachers to include computer technology into their classrooms and computer technology training is a significant element that assists teachers to develop positive attitudes toward using computer technology (Redish, 1997; Reynolds & Morgan, 2001; Yildirim, 2000; Yildirim & Kiraz, 1999).

Teachers will not be able to successfully use computer technology as a powerful tool for their instructional methods, if they do not have enough training in computer technology. Positive attitudes toward computer technologies can be obtained through computer technology training (Keiper, Harwood & Larson, 2000; Kelleberger, 1996).

Teachers will be able to use computer technology in their classroom, and if they learn the important skills of computer technology, they will have confidence and control over the computer technology and this automatically reduces their disappointment in using computer technology (Keiper, Harwood & Larson, 2000; Kelleberger, 1996).

Teachers should be persuaded of the advantages of computer technology in their teaching. Teachers will become more motivated to use computer technology, if they become convinced of the learning advantages resulted from using it. The provision of appropriate models and opportunities and training support are the best ways to persuade teachers to adopt computer technologies. Schools should provide teachers with enough training and time to develop appropriate ways to include computer technology into their instruction in order to better use computer technology effectively (Jones, 2001).

### Teachers' Attitudes

Teachers' attitudes toward computer technology can be changed, their skills can be improved and new opportunities and resources can be provided for their students through computer technology integration training (Anderson & Harris, 1997; King, 2002b; Sheumaker et al., 2001). Professional development is important for teachers and it is very unlikely that a teacher will keep up with the new computer technologies on his/her own (King, 2002b).

One of the significant factors for teachers' acceptance and use of computer technology is the provision of opportunities and training to enable them to learn computer technology resources and also learn how to use them in their teaching (Clark, 2000). Teachers' attitudes towards CALL in the Foreign Languages Department at a university in Turkey were examined by Tuzcuoglu (2000). It was concluded that many teachers did not use computer technology for their teaching aims in spite of the availability of computer labs that teachers used for their teaching.

More access to computer technology and the design of training opportunities are needed for teachers (Kassen & Higgins, 1997). A study was done by Kassen and Higgins (1997). It was shown that computer technology training is most effective when it (1) provides teachers with sufficient time to practice computer technology and to share opinions; (2) provides continuous support rather than short-time training sessions.

Teachers can develop positive attitudes toward computer technology and integrate it into their programs by means of computer technology training. The successful inclusion of computer technology into the classroom cannot be done just through paying attention to teaching basic computer skills (Reynolds & Morgan, 2001; Yildirim, 2000; Yildirim & Kiraz, 1999).

Teachers should take part in computer technology training programs that do not just push them to learn the basic computer skills but can motivate them to use activities that teach them how to include computer technology into the teaching programs (Baylor & Ritchie, 2002; Reynolds & Morgan, 2001; Roberts, 2003; VanFossen, 2001).

Trained teachers showed considerable changes in their classroom integration of computer technology with student-centered learning because they had positive attitudes toward using computer technology and used more computer technology than teachers who had no such training (Di Benedetto, 2005).

A study was done by May (2000) towards mentoring follow up to computer technology training. It was displayed when one teacher acts as a mentor to other teachers who receive computer technology integration training had more achievements than traditionally trained teachers. It was also shown that the mentor increased confidence in using computer technology, enhanced their ability to work together and showed a desire to continue to include computer technology in their teaching approaches.

The other study was conducted by Davis (2002) towards evaluating the effectiveness of one-on-one follow up program with Georgia Technology Integration (InTech) trained teachers. Findings obtained from this study indicated that teachers who had one-on-one follow up program help in including computer technology received higher levels of technology integration, but teachers who did not receive follow up couldn't include lessons in InTech.

According to Di Benedetto (2005), May (2000) and O'Dwyer, Russel and Bebell, (2004), follow-up programs or mentoring systems were essential to develop collaboration and

support, to show daily challenges and to have effective use of computer technology in the classroom. Teachers' needs, their beliefs about teaching and learning and their views of computer technology should be the basis of the training, when professional development program is designed.

Teachers should have positive attitudes towards using CALL in language instruction and teach with computer technology. Teachers should have experience with using CALL and should learn to use computer technology for their teaching. They should be trained to use CALL in teaching English and to integrate computer technology in their curriculum to use CALL resources effectively (Tuzcoglu, 2000).

#### **Knowledge and Experience**

The use of computer technology by teachers and their beliefs towards the effect of computers technology on their classroom methods were investigated by Dexter, Anderson and Becker (1999). Teacher-centered or learner-centered method, while computer technology is used in the classroom, depends on decision and knowledge of the teachers.

Teachers should use their knowledge of using computer technology tools in their classroom. If teachers want to make and develop this knowledge, they should have opportunities to work with computer technologies, models of how these technological tools are used in teaching and opportunities to show the significant role of the computer technology in the learning process. Models of actual technology implementation, opportunities for learning and positive support should be provided by trainers and curriculum planners (Dexter, Anderson, & Becker, 1999).

Successful use of computer technology into the classroom cannot be achieved only by mastering the main computer technology abilities by means of computer training. Teachers have to take part in professional development activities and these activities will help them get the necessary computer abilities and teach them how to use computer technology into their teaching approaches (Baylor & Ritchie, 2002; Redish, 1997; Reynolds & Morgan, 2001; Roberts, 2003; Van Fossen, 2001; Wenglinsky, 1998).

Research has shown that teachers who have more experience with computer technology are more comfortable to use it and have positive attitudes towards computer technology resources, while those who are worried about computer technology do not like to use them (Akbaba & Kurubacak, 1998). The success of instructional technology depends on teacher s' attitudes and the ability to use them in their instruction (Clark, 2000).

The potential of computer technology in the classroom cannot be understood unless teachers have sufficient knowledge and skills that are important for the integration of computer technology into the teaching programs. Effective use of computer technology cannot be guaranteed just by access to computer technology, but professional development is needed for teachers to increase the potential of computer technology and use it effectively in their instruction (Redish, 1997).

Rozell and Gardner (1999) said that there is a relationship between teachers' computer experience and their computer attitudes. If teachers have more experience with computers, they will show positive attitudes towards them. Many teachers who had negative attitudes towards the integration of ICT into their instruction did not have enough knowledge to make good decisions (Al-Oteawi, 2002, as cited in Bordbar, 2010).

A qualitative study was done by Peralta and Costa (2007). It was about primary school competence towards using ICT in teaching. It was conducted in five European countries.

Researchers found that competence affected Italian teacher's use of ICT in teaching. It was also indicated that teachers who have more experience with computers have greater confidence to use them efficiently.

A study was conducted about the relationship between teachers' attitude and acceptance of technology. The results obtained from this study indicated that though many teachers say computer technology is a significant component of students' education, their lack of knowledge and experience lead to a lack of confidence to introduce them into their instruction (Francis-Pelton & Pelton, 1996, as cited in Bordbar, 2010).

#### **Conclusion**

There is a need for teachers to be trained, have positive attitudes and have knowledge and experience in the effective use of computer technology in language instruction. Training should not be restricted to how to use computer technology; it should indicate teachers how they can make use of computer technology in improving the quality and effectiveness of their instruction. There is a need for ongoing training and assistance in helping teachers to better use computer technology in pedagogic practices. It is important to understand teachers' reasons for computer technology training, their attitudes and their knowledge and experience about the value of computer technology in instruction. Teachers need to be provided with explanation, guidance and assistance from trainers and also the opportunities to reflect the integration, share outcomes and possible problems with each other.

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