

On the Effectiveness of Technology Use in EFL Classrooms, An Investigation of Teachers' Perceptions

Dr. Mohammad Reza Adel ^{1*} - Maryam Hatami khalilabad² - Elahe Ehsaninia³

¹ Department of English Language and Literature, School of Humanities, Hakim Sabzevari University, Iran.

² Department of English Language and Literature, School of Humanities, Hakim Sabzevari University, Iran.

³ Department of English Language and Literature, School of Humanities, Hakim Sabzevari University, Iran.

ABSTRACT

Regarding the increasing number of technology-enhanced L2 classrooms and their crucial role in improving the educational goals, the study of teachers' attitudes becomes indispensable to the technology implementation plans. The purpose of this study was to investigate the high school EFL teachers' attitudes toward ICT (Information and Communication Technology) in Iranian educational system and then to explore the relationship between teachers' attitudes and factors that are thought to influence them, including perceived computer attributes, cultural perceptions, perceived computer competence, and perceived computer access. The required data for this survey-based study were collected from 100 EFL high school teachers in Iran to find their perceptions towards ICT use in their classrooms. Results obtained from the quantitative data revealed teachers' positive attitudes toward ICT use, their experiences with it, and the cultural conditions in which the technology is incorporated. The findings have some implications for teachers and educators as well. Teacher's positive opinions toward the technology use in EFL classrooms and its effective role in teaching and learning leads to more technology integration and consequently language learning improvement.

Keywords: Technology, ICT, EFL Classrooms, Teachers' Perceptions

1. INTRODUCTION

In recent years, the rapid evolution of information and communication technology (ICT) has made great changes in societies and education. Technology not only gives learners the opportunity to control their own learning process, but also provides them with ready access to a vast amount of information over which the teacher has no power or control (Lam & Lawrence, 2002).

However, in schools, teachers are seen to be active agents in the process of changes and implementation of new ideas as their beliefs and attitudes may support or impede the success of any educational reform such as the utilization of an innovative technology program (Woodrow, 1991; Levin & Wadman, 2006a). As Baylor and Ritchie (2002) state, "regardless of the amount of technology and its sophistication, technology will not be used unless faculty members have the skills, knowledge and attitudes necessary to infuse it into the curriculum" (p. 398). That is, teachers should become effective agents to be able to make use of technology in the classroom. Ultimately, teachers are the most important agents of change within the classroom arena.

According to Atkins and Vasu (2000), teachers' attitudes or concerns have a significant influence on the use of computers in the classroom. Lam (2000) also emphasizes that teachers' personal beliefs of the advantages of using technology for language teaching influence teachers' decision regarding technology use. Similarly, Kim (2002) points out that critical factors affecting successful integration of technology into the classroom are associated with teachers themselves, such as teachers' perceptions and attitudes. She adds that teachers' perceptions and attitudes toward teaching and technology can be regarded as a facilitating or inhibiting factor, giving them more confidence or a major barrier of technology use. Redmond, Albion and Maroulis (2005) also reported that teachers' personal backgrounds such as personal confidence, interests in using ICT and willingness

to try something different are significant factors that might promote ICT integration in the classroom. However, Egbert, Paulus and Nakamichi (2002) assert that a positive attitude toward computer technology does not guarantee that teachers will be able to use the technology in the classroom. Kim (2002) found that teachers' actual use of Web-based lessons was limited, frequently delayed, avoided or withdrawn. They encountered some unexpected difficulties or barriers due to lack of sufficient knowledge and computer skills, lack of experience, insufficient time, computer anxiety and lack of confidence, although all participants in her study had positive attitudes toward the use of technology and strong intrinsic motivation such as personal curiosity and interest. The most common reasons for not using computers included limited class hours, inconvenience of using computer facilities and technical problems such as slow Internet connections. In addition, they had problems related to integrating authentic materials into their textbooks. Learners are expected to be active participants in the learning process rather than passive recipients since they control their own learning in a technology-enhanced learning environment (Brown, 1991).

In the technology-enhanced environment, learners could manage their own learning process by gathering information and negotiating meaning themselves. The classroom became more learner-centered, that is, learners were able to make their decisions and became responsible for their work more independently. The teacher, on the other hand, became a "facilitator, a resource person and a counselor rather than the only authority and decision-maker" (p. 305).

Bancheri (2006) asserts that teachers' role in the new era of technology is not only to transmit new knowledge, but to give students tools to acquire knowledge and recognize the value of what they see in books and software as well as on the Internet.

The success of student learning with computer technology will depend largely on the attitudes of teachers, and their willingness to embrace the technology (Teo, 2006). Gaining an appreciation of the teachers' attitudes towards computer use may provide useful insights into technology integration and acceptance and usage of technology in teaching and learning.

No matter how sophisticated and powerful the state of technology is, the extent to which it is implemented depends on teachers having a positive attitude towards it (Huang & Liaw, 2005).

The technical advances of information technology have had a great impact on English language learning and they boost students' motivation, according to Mansor (2007). However, instructional technologies have been barely used in Iranian classes and little attention has been made to investigate Iranian EFL teacher's attitude toward using technology in their classes.

The purpose of this study is to investigate to what extent Teacher's attitude is positive toward using technology in EFL classes.

2. REVIEW OF LITERATURE

2.1 Integration of Technology into The Curriculum

The last two decades have witnessed a worldwide incorporation of information and communication technologies (ICT, henceforth) into the field of education. The global adoption of ICT into education revolutionized the outmoded educational system, better prepare students for the information age, and/or accelerate national development efforts.

Computers have changed the way that many teachers approach teaching. As teachers are the key persons who will promote any innovation in education, it is important to help them integrate technology effectively into their instruction (Pettenai, Giuli, & Khaled, 2001).

Most of the research studies have focused mainly on the effectiveness of computer use and its contribution to student learning (Timucin, 2006). However, the integration of English as a foreign language (EFL) teachers as active participants in the teaching and learning process has received little attention (Ismail, Almekhlafi, & Almekhlafi, 2010).

Fullan (2007) in discussing the integration of technology into teaching and learning activities assigns the most important role to teachers and argues "teachers are needed, but it is new role that is required--the teacher as change agent". Kern (2006) argued that successful technology-mediated-pedagogy "has been repeatedly shown to depend largely on teachers' efforts in coordinating learners' activities" (p. 200).

This is why it is important for teachers to receive technology skill training. A study in Taiwan demonstrated a strong relationship between teacher training and the integration of technology into the curriculum. Hsu (2000) discovered that the better trained the teacher was in the use of technology, the more likely he or she was to successfully integrate it into classroom instruction.

Likewise, Yeh, Huang, and Yeh (2011) explored the mechanisms underlying the success of knowledge management-based training and found that the training program designed in the study effectively improved pre-service teachers' professional knowledge and personal teaching efficacy in their teaching of creativity.

Moreover, Warschauer (2007) found that schools with a higher socioeconomic status integrated technology much more readily because teachers are confident that students have better access to computers and/or technology at home and therefore can complete homework in which technology is necessary for the completion. Schools with a lower socioeconomic status can compensate somewhat for this difference by providing laptops for home use, keeping the computer lab open after school, or using mobile labs more efficiently.

When middle school and secondary school teachers used web-based learning tools as part of their lessons, they perceived that their students were more successful as it appeared to significantly engage the students (Kay, Knaack, & Petrarca, 2009). Furthermore, the students also scored higher on tests. This study also found that teachers felt the web-based learning tools were easy for the students to use. The use of technology in the classroom allows students to engage in a more active way of thinking, literally a hands-on learning experience in which they are able to practice executing skills that would be impossible with a traditional book lesson.

As Norum et al. (1999) note, "Roles and teaching and learning strategies are changing because technology fosters the use of more student-centered learning strategies" (p. 188).

In another study, Sun (2010) aimed at examining the possibilities and challenges involved in the integration of blogs into teacher-education programs in higher education in Taiwan. The results found that blogging could encourage preservice teachers to actively and reflectively engage in knowledge sharing, knowledge transformation, and knowledge generation.

Considering the school climate and school support in terms of computer use in the classrooms, Heflich (1996) suggested that a positive school climate was mandatory for developing and implementing instructional strategies that incorporate computer use. A study conducted by Demetriadis et al. (2003) indicated that while teachers expressed considerable interest in learning how to use technology, they required ongoing support.

On the other hand, numerous reports have reported the failure of technology to bring changes to our educational system, because "teachers' use of technology often forces it into traditional teaching paradigms that have existed for decades" (Sprague, 1995, p. 352).

For technology to transform teaching and learning, there is a need to redefine the teacher's role and change existing teaching practice. According to Becker (1991), teachers and school administrators need "to modify their concepts of appropriate and inappropriate teaching behaviors, to reprioritize the value of different types of instructional content, and to change habits and assumptions that guide their classroom and school management strategies. He states that "the way that teachers teach is a product of their own schooling, training, and experiences as teachers" (p. 8).

In line with the above mentioned studies' results, dealing with the teachers' important roles in incorporating technology tools in their classrooms seems to be a priority.

2.2 The Significance of Teachers' Role in ICT

There is, indeed, a highly rich literature on the teachers' roles as a key factor influencing the integration of ICT (Information and Communication Technology) in education (Albirini, 2006; Kern, 2006; Chen, 2008; Park and Son, 2009). These studies have argued that teachers' perspectives and attitudes towards technology CALL may be a significant factor that influences their patterns of behavior regarding the initial or future use of ICT in their teaching experiences. On the other hand, there is evidence (Kim, 2002; Peeraer and Petegem, 2011; Rahimi and Yadollahi, 2011, cited in mazafari & wray, 2013)) that teachers' positive attitudes towards ICT do not ensure their actual use of ICT in teaching. While the availability of technological tools and their affordances along with other factors seem to be essential in enhancing or limiting learning opportunities, teachers' perspectives towards these technical artifacts may be more important than the tools themselves in the integration of ICT into language pedagogy (Lamy and Hampel, 2007).

These interpretations are in concordance with some other researchers (Afshari et al, 2009; Altun, 2007) who have suggested that teachers' attitudes toward technology are related to teachers' ICT literacy. Kim (2002) found that although teachers expressed strong positive attitudes and enthusiasm for using ICT in their study, they actually were not able to use ICT in their classrooms due to insufficient ICT knowledge, time constraints, technology anxiety and lack of confidence. This perspective supports Kern's (2006) and others' calls for research into the teachers' roles and their perceptions and perspectives on technology use in education.

Few studies have been conducted regarding EFL teachers' self-confidence in integrating computers into the teaching and learning process. For instance, Shaver and Wise (1990) noted that computer usage increased teachers' self-confidence to a large extent. It was also found that preservice teachers gained confidence in using computer technologies through formal teacher-education coursework (Knezek, Christensen, & Rice, 1996).

Similarly, in a study on teachers' intentions to use information technologies as teaching strategies, Morton (1996) noted that teachers' degree of self-confidence positively and significantly improved. Moreover, in two studies (King, 2002a, 2002b) that examined the experiences of teachers as they learned how to use technology for educational purposes within the framework of transformational learning, technology integration was found to increase the level of teachers' self-confidence. Moreover, in a quasi-experimental study, Lowther, Inan, Strahl, and Ross (2008) found that teachers had significantly high confidence in integrating technology and in using technology for learning.

In their study of the correlation between teachers' attitude and acceptance of technology, Francis-Pelton and Pelton (1996) maintained, "Although many teachers believe computers are an important component of a student's education, their lack of knowledge and experience lead to a lack of confidence to attempt to introduce them into their instruction" (p. 1).

As an important issue, what teachers should know about technology and how best to help future teachers learn about technology has constantly been a challenge for teacher educators. Totally, teachers need different kinds of expertise, knowledge, and skills to successfully implement the technological and pedagogical tools provided into their classroom and teaching process.

2.3 Teachers' Competence

Teachers' attitudes towards using ICT are related to teachers' ICT competence; as teachers who are more competent in using technology, have been shown to be more willing to integrate it into teaching (Altun, 2002; Rahimi and Yadollahi, 2011; cited in Mozafari & Wray, 2013). In addition to ICT knowledge and skill, teachers need to have sufficient knowledge of ICT pedagogy. In this regard Baylor and Ritchie (2002) stated, "regardless of the amount of technology and its sophistication, technology will not be used unless faculty members have the skills, knowledge and attitudes necessary to infuse it into the curriculum" (p. 374). It means that the knowledge and capability of teachers for useful implementation of ICT for pedagogical purposes is a determining factor. The degree to which teachers perceive the usefulness and relevance of these innovational changes from a practical task perspective, determines the likelihood of them embracing these changes. In a report of three qualitative studies, O'Dowd (2007) identified the skills and knowledge for which both students and teachers must engage successfully in this complex online learning activity and concluded that the success depended on their appropriate integration of the activity into the language classroom.

Margherum-Leys and Marx (2003) identify three types of teacher knowledge of educational technology: content knowledge, pedagogical knowledge, and pedagogical content knowledge of educational technology. Teachers should understand the available and proper technological tools for a particular task and the strategies for using the tools. In addition, teachers should know how to apply general pedagogical strategies to the application of technologies in their teaching. Moreover, teachers need to have experience with technology application related to their area of teaching and learning and be capable of applying such experience to selecting and using technology.

Kessler and Plakans (2008) examined the levels of confidence of EFL teachers in using technology in the USA. It was reported that the less competent teachers were less interested in using computers in their classrooms.

Regarding EFL teachers' knowledge of software and personal computer use, Nickisch (1983) suggested that a language teacher can readily work on student interest and motivation in this learning mode with only a very basic knowledge of micro-computers, that entry level programs for language teaching are rather simple, and that computers make language learning both interesting and enjoyable.

In a study of teacher perception of the values that are needed to be an "exemplary" user of technology in the classroom, it was found that teachers believe that a person has to be confident in his or her ability to use technology and committed to its use (Ertmer, Ottenbreit-Leftwich, & York, 2007).

Fabry and Higgs's study (1997) reveals that teachers' perceived relevance of ICT is affected by previous computer experience. Negative attitudes toward computer use decrease confidence and increase anxiety. The use of technology may bring a sense of uncertainty and fear (Fullan & Stiegelbauer, 1991). A lack of technology knowledge and skills could lead to anxiety and lack of confidence; consequently, teachers may feel uncomfortable with technology (Finley & Hartman, 2004).

Consequently, Al-Oteawi (2002) found that most teachers who showed negative or neutral attitudes toward the use of ICT in education lacked knowledge and skill about computers that would enable them to make

“informed decision” (p. 253). Similarly, Cope and Ward (2002), experienced teachers who had little or no professional development in the use of technology in the classroom were less likely to use it in the classroom and were less likely to see the benefit of technology usage in the classroom.

Royer (2002) found that the more teachers were involved in actually setting up classroom technology the more likely they were to use that technology for instruction (Royer, 2002).

In another study, Neufeld (1984) identified computer competencies for reading teachers at the beginner, intermediate and advanced levels and claimed that very little computer knowledge was required during the teaching reading process.

Bauer (2002) discussed the incorporation of effective staff development programs to support the use of computer technology in elementary education, presented the findings of a survey exploring fourth-grade teachers' knowledge in using computer technology, and concluded that relatively new teachers had greater confidence in their ability to use technology as part of their teaching strategy.

Additionally, Fuchs (2006) presented findings on the electronic and professional literacy skills of preservice language teachers through computer-mediated peer collaboration and found that pre-service teachers had different levels of electronic literacy skills.

As for the current state of the use of technology in Iranian educational courses, the limited research shows that technology is not commonly used by educational stakeholders and teachers' lack of computer competence is considered as one of the barriers (Atai & Dashtestani, 2011; Dashtestani & Sharifi, 2012; Mazdayasna & Tahririan, 2008; Mohagheghzadeh & Abdolahi, 2002; Taghva, 2001).

2.4 The Effect of Cultural Perceptions

One of the influential factors in implementing technology in EFL classrooms is cultural perceptions. "The social and cultural contexts in which ICT resources are perceived and used by teachers are key influences in the development of a range of personal and professional practices" (Loveless, 2003, p. 314).

The findings of Afzalkhani and Lawwaf's (2013) study showed that using instructional technology tools needs cultural backgrounds being prepared and culture is one of the obstacles of using it in education. The drawback in culture affects using innovative teaching methods based on information technology. Similar results were found by Atashak and Mahzadeh (2010) and Farajollahi, Moenikia and Abbasi (2013). Teachers in Atashak and Mahzadeh's (2010) study stated that they do not use ICT because they believed that ICT might threaten their values. Teachers' individual perspectives related to culture are rooted in first-order barriers such as the school policy in preparing the socio-cultural context of ICT use.

Simonsson (2004) investigated the attitudes of 103 elementary teachers toward the use of technology in teaching cultural issues. The teachers participating in the study believed that technology was beneficial in teaching cultural issues.

As a result, Culture needs to be taken into account as an important element in the implementation of ICT (Albirini, 2006), and culture may have an impact on how teachers relate their beliefs to ICT use (Chai, Hong & Teo, 2009).

2.5 Teachers' Attitudes

A rather large body of research concerns with the teachers' views towards technology implementation in their classrooms. Previous literature on the attitudes of EFL instructors has revealed that EFL instructors have positive attitudes toward the use of CALL in teaching different language skills (Thurston, 1990; Lau and Sim, 2008; Laborda and Royo, 2009; Bullock, 2004; Kersaint, Horton, Stohl, and Garofalo, 2003; Woodrow, 1992; Lau and Sim, 2008).

Diverse definitions of attitudes have reported in the previous literature. Allport (1935) defined it as "a mental and neural state of readiness, organized through experience, exerting a directive or dynamic influence upon the individual's response to all objects and situations with which it is related" (p. 810). Other researchers define attitude as a positive or negative emotional reaction toward a specific situation. Moreover, Fishbein (1975) defined attitude as "a learned predisposition to respond to an object or class of objects in a consistently favorable or unfavorable way". Anderson and Bird (1995) state that "Beliefs include the frames of references or the perspectives that teachers use to make sense of their practice and its effects on their students" (p. 480).

Teachers' beliefs about teaching and learning with ICT are crucial to integration. For example, in Beggs' study (2000) of 156 full-time faculty members at the University of West Georgia, teachers strongly believed that ICT improved student learning, had an advantage over traditional teaching, and increased students' interest, and these beliefs affected their adoption and continuation of innovation.

Fullan (2007) argues that it is essential for teacher educators to take into account teachers' beliefs about teaching and learning, since not doing so has resulted in some cases to unsuccessful reform. This has been a challenge in many teacher education courses (Anderson & Bird, 1995)

In another study, Park & Son (2009) conducted a study on the perceptions of Korean in-service EFL teachers of the use of CALL. Using interviews and questionnaires, the authors found that the teachers held positive attitudes toward the use of CALL in EFL courses. The EFL teachers believed that computers were very beneficial to provide adequate input as well as authentic materials and contexts for students. In another study on the perceptions of both teachers of Arabic and teachers of English about the use of technology in their classes in schools of the United Arab Emirates (UAE), Ismail, Almekhlafi and Al-Mekhlafy (2010), using questionnaires and interviews, found that the teachers were willing to integrate technology in their teaching practices. Teachers also perceived the role of technology in their teaching as unavoidable. Kim (2002) further reported on the positive attitudes of teachers toward the use of CALL and their great intrinsic motivation to use technology.

In a qualitative-quantitative survey, Atai and Dashtestani (2011) examined the attitudes of Iranian EAP stakeholders toward using the Internet in EAP courses. It was shown that EAP stakeholders, including EAP instructors, had positive attitudes toward the application of the Internet in Iranian EAP courses.

Some other studies have explored the attitudes of teachers toward some specific aspects of technology in EFL and educational contexts such as blogs, the Internet, and multimedia, writing skills, vocabulary, and online instruction. These types of technology have frequently been researched in the previous literature. For instance, Sun (2010) reported on a study on challenges in including blogs in teacher education programs in higher education in Taiwan. It was depicted that pre-service teachers had positive attitudes toward the integration of blogs and found blogs useful tools.

Timucin (2006) investigated the usefulness of multimedia and the impact of multimedia on teachers' attitudes. Employing questionnaires and interviews, the author found that teachers became involved in this type of technology and they became interested in the use of multimedia in their teaching.

There have been limited studies on the personal purposes for computer use among EFL teachers. Among those studies, for example Wozney, Venkatesh, and Abrami (2006) examined personal and setting characteristics, teacher attitudes, and current computer technology practices and concluded that teachers mainly used the World WideWeb, CD-ROMs, and word processing.

Combs (1985) investigated elementary and secondary teachers' comfort with computers and the teaching of writing skills and concluded that the participants were confident in themselves as writers.

Arkin (2003) examined teachers' perceptions of the incorporation and use of computer technology resources in language teaching by investigating teachers' attitudes and approaches to using an online supplementary resource in vocabulary instruction in an EFL context and found that teachers who had undergone computer technology training had positive attitudes toward the use of computers in vocabulary instruction. In a study conducted by Chen (2008), the purpose was to build a model that predicted the degree of Internet use by EFL teachers in the northern Taiwanese higher education institutions. The results indicated that attitude was one of the factors that affected Internet use.

Studies have also focused on preservice to change teachers' perceptions of computers (e.g. Ebsworth, Kim, & Klein, 2010; Fuchs, 2006; Kulekci, 2009; Shaver & Wise, 1990; Sun, 2010). In the same line, Sadaf, Newby and Ertmer (2012) investigated pre-service teachers' behavioral, normative, and control beliefs concerning their intentions to use Web 2.0 technologies in their classrooms. The results recommended that pre-service teachers' intentions to use Web 2.0 technologies are associated to their beliefs about the value of these technologies for improving learners' learning and engagement, its ease of use, its ability to meet the learners' needs, the participants' high self-efficacy in use, and its potential for affording learners anytime/anywhere access to learning and interaction.

Wang (2002) found that teachers saw their roles as being more teacher centered and less student centered in classrooms that did not have computers. However, teachers did not think that they would teach differently or that their roles would be different in a classroom with computers.

Khany R.(2013) in his study explored the Iranian EFL teachers' familiarity, attitudes and willingness toward applying different internet tools in their classrooms. He also investigated the platform problems and teachers' main concerns towards integrating these tools. The results revealed that EFL teachers 1) are highly familiar with most of the internet tools; 2) have highly positive attitudes towards using and integrating internet tools in their classrooms; 3) are willing to use these technologies for developing certain language skills competency; and 4) are highly concerned about culturally inappropriate materials and students' internet dependability and autonomy.

Most studies examining computer attitudes have also reported a significant association between computer access and teachers' attitudes toward computers (Na, 1993; Pelgrum, 2001). In his study of Korean teachers, Na (1993) found a positive correlation between teachers' attitudes toward computers and computer

ownership, accessibility to school computers, the level of accessibility to school computers, and number of computer locations in the school. He concluded that there was a significant relationship between the proximity of computers and the number of access resources (home and school) on the one hand, and, on the other, teachers' attitudes toward computers.

Maftoon and Shahini (2012) named two concepts, namely perceived usefulness (PU) and perceived ease of use (PE), in relation to the factors affecting teachers' ICT uptake. These two concepts are the basis of the technology acceptance model that Davis introduced in 1986 (Davis, Bagozzi, & Warshaw, 1989). Since these two concepts affect the attitude of teachers and their decision to use technology in classroom, they are classified here under the category of teachers' attitude toward ICT use. PU is defined as the degree to which a person believes that his or her job performance will be enhanced by using a particular technology (Davis *et al.*, 1989). PE refers to the degree to which a person believes that using a particular technology will be effortless (Davis *et al.*, 1989). The educational technology with a high level of PU is more likely to induce positive attitudes. However, according to the results reported by Maftoon and Shahini (2012) PU is considered as a weak inhibitor to computer use. Teachers in their study had no negative perception about the educational merits of technology in enhancing students' learning without underestimating the role of the teacher. PU is under the influence of first-order barriers and PE (Maftoon and Shahini, 2012), that is to say, while PU directly affects attitude, PE and first-order barriers have an indirect influence on attitude. It is possible that while teachers may believe in the usefulness of technology, at the same time, they might have a feeling that using technology is not feasible (Davis, 1989) and this perceived difficulty might be due to external factors such as lack of administrative support, lack of enough training, etc. Teachers implementing innovation largely depend on their cognitive and affective schemes. For teachers to take the initiative in curricular change and to effectively apply technology for meaningful instruction, teachers' beliefs and attitudes are the two major internal factors identified by researchers (Ertmer, 1999; Fabry & Higgs, 1997).

Teachers who are more inclined toward constructivist beliefs may be more likely to attempt technology implementation (Becker & Riel, 2000). In Niederhauser and Stoddart's study (1994), among 2170 surveyed teachers, the constructivist group believed that computers are used as a tool and students can use them for information collection, analysis, and presentation, whereas the transmission group believed that computers are used as a teaching machine for presentation, reinforcement, and progress tracking. Consequently, before innovation adoption, teachers' beliefs should be dealt with to determine the fit of each technology with their personal philosophies of teaching and learning (Fullan & Stiegelbauer, 1991).

Ertmer *et al.* (1999) claimed five major reasons why teachers are motivated to apply technology in the classroom. Four are related to how learners benefited from their application: excitement, preparation for the future, more interesting lessons for students, and access to students with learning difficulties and attention problems. The fifth one is that teachers enjoy using technology as they become more competent.

Bena and James (2001) claim that there are three reasons for investing in technology: (1) to increase students ability and interest in applying authentic settings, what district and states have identified as learning and tasks that students should know and able to do; (2) to prepare students for success in a technology centered world of work, and; (3) to prepare students to manage and use information so they can be productive life long learners and responsible citizens.

Harrison and Rainer (1992) conducted their research using data compiled from a 1990 survey of 776 knowledge and information workers from a large university in the southern United States. They found that participants with negative computer attitudes were less skilled in computer use and were therefore less likely to accept and adapt to technology than those with positive attitudes.

Finally, The development of teachers' positive attitudes toward ICT is a key factor not only for improving computer implementation but also for avoiding teachers' resistance to computer use (Watson, 1998). Watson (1998) warns against the severance of the innovation from the classroom teacher and the idea that "the teacher is an empty vessel into which this externally defined innovation must be poured" (p. 191).

In general, whether to use or not to use technology in the teaching process is the teachers' choice which highly depends on their attitudes toward its relevance and effectiveness. However they may encounter some barriers, the last part of the present literature deals with this issue.

2.6 Main Obstacles to Technology implementation

The various barriers to implementing and application of CALL and technology have been identified in the previous literature as well. In the study conducted by Park & Son (2009), teachers perceived several external factors such as lack of time, lack of computer-based facilities, rigid textbooks and curricula, and lack of administrative support as important limitations of using technology. Internal factors, including lack of teachers'

computer knowledge and their perceptions, were also other types of perceived limitations. while Bordbar (2010) found that teachers' perceptions of the compatibility of computers with their current teaching practices were not significantly positive due to the lack of facilities.

Kim (2002) found some limitations such as lack of teachers' sufficient knowledge and computer competence, lack of experience, lack of time, computer anxiety and lack of confidence as the main barriers to the use of CALL.

In his study, Dashtestani (2012), explored the attitudes of Iranian EFL teachers toward the use of CALL in EFL courses as well as their perceptions of possible barriers to the implementation of CALL. The results of questionnaire and interviews revealed that the participants perceived computers as beneficial tools to be included in EFL courses. Also, lack of technology-based facilities, low availability of computers in EFL courses, and lack of educational authorities' support to include CALL, Low levels of teachers' and students' computer literacy, lack of EFL teachers' CALL methodological knowledge, and teachers' lack of knowledge and intervention in producing CALL materials were further considered as other barriers to the implementation of CALL in Iranian EFL courses. Injustice in using computers, and cultural resistance were other types of constraints perceived by EFL teachers.

Mahmoodikia, M., et al, (2014) in their study reviewed some barriers of implementing technology found in the previous literature. From the analysis of all the studies which were reviewed, 12 factors were found to be barriers as well as contributing factors to ICT uptake by Iranian teachers. These factors are categorized into four broad groups including: Psychological factors (teacher's attitude, computer anxiety, motivation, cultural perception), professional development (ICT literacy and competence), educational factors, and biological factors (age, gender).

At last, Ertmer (1999) categorized the barriers into two; first-order and second-order barriers. First-order barriers are caused by the unavailability of the access to the technological tools hardware and software, lack of training for the technology use while the second-order barriers result from the beliefs and perceptions of the teachers towards technology.

In general, teachers play a significant role in ensuring the successful implementation of technology integration program in any educational setting and their perceptions towards technologic use is of primary concern. Therefore, this study seeks to find answers to the following questions.

2.7 Research Questions

1. What are the attitudes of Iranian EFL teachers toward the use of technology tools in the teaching and learning process?
2. What are the Iranian EFL teachers' perceptions towards computer attributes?
3. What are the teachers' perceptions of cultural relevance of computers to Iranian society and schools?
4. What are the Iranian EFL teachers' perceptions of their knowledge about computer software?
5. What are the teachers' attitudes of their level of access to computers?

3. METHODOLOGY

3.1 The Study

The adaptation and integration of Information and Communication Technology (ICT) has been regarded as one of the most significant revolutions in the field of education due to its multidimensional impact on teaching and learning as well. In spite of this fact, the implementation of technology has not received expected attention of many EFL teachers in Iran. As the teachers are the ones who are considered as responsible for implementation of technology tools in teaching process, their perceptions can influence their use of technology.

3.2 Participants

The target population in this study was a group of 100 Iranian high school EFL teachers who were teaching in middle and secondary public schools or in English private institutions in different parts of Iran the 2016–2016 school year. The participants were both male and female teachers and their age range was between 24 and 49 with teaching experience of 3 to 27 years. Also they were teaching in both rural and urban areas. A simple random sampling was used to collect data from the participants.

3.3 Instrument

A questionnaire developed by Abdulkafi Albirini (2006) was used to collect the relevant data. The development of questionnaire was guided by extensive review of literature and scales used in different educational backgrounds (Al-Oteawi, 2002; Bannon, Marshall, & Fluegal, 1985; Bear, Richards, & Lancaster, 1987; Christensen & Knezek, 1996; Gardner, Discenza, & Dukes, 1993; Gressard & Loyd, 1986; Harrison & Rainer, 1992; Isleem, 2003; Jones & Clarke, 1994; Meier, 1988; Na, 1993; Robertson, Calder, Fung, Jones, & O_Shea, 1995; Sooknanan, 2002; Swadener & Hannafin, 1987, cited in Albirini, 2006).

The questionnaire consisted of five scales that correspond to the main variables of the study. The instrument was evaluated by a panel of experts for content and face validity. The panel included three content experts (Professors of educational technology and EFL), two bilingual experts, one measurement expert, and four population experts (Syrian EFL teachers). Feedback from the panel of experts was used mainly to ensure that the five scales measure the content areas of investigation.

Some questions were reviewed and modified, some other questions were eliminated because they were either redundant or did not correspond with the aims or context of the study.

The revised questionnaire adapted for the study totally consists of 62 close-ended questions examining five construct including, attitudes towards ICT in education (Section A, 20 items); computer attributes (Section B, 17 items); cultural perceptions (Section C, 11 items); computer competence (Section D, 11 items); and computer access (Section E, 3 items).

The present study is going to investigate the relationship between teachers' perception toward technology and the application of technology in their classroom through these variables.

3.4 Data Collection procedure

This study design was quantitative, survey based in which data collected from 100 EFL high school teachers in Iran to find the perception of teachers towards ICT use in their classrooms.

A systematic procedure was used for collecting and administering the data. During the first semester of the academic year 2015-2016, 100 questionnaires were distributed by researchers among teachers working at public secondary and middle schools and private English institutions. All teachers of English who were available during the researchers' visits were requested to complete the survey. Some questionnaires were emailed to teachers who were not available at the time of the study. The participants responses to questionnaires were returned through a one and a half month- period. Quantitative data (survey data) was analyzed and reported using SPSS.17. statistical package.

3.5 Data Analysis and Results

Descriptive statistics were used to describe and summarize the data collected from the respondents. The questionnaire consisted of five sections with a sum of 62 items.

3.5.1 Research question one: What are the attitudes of Iranians EFL teachers toward the use of technology tools in the teaching and learning process?

In the first section of the questionnaire, EFL teachers were required to answer to 20 likert-scale statements on their attitudes towards the use of technology tools in the classroom. The items were designed to measure the affective domain of computer attitude (items 1–6), cognitive domain (items 7–15), and behavioral domain (items 15–20). Computer attitudes of EFL teachers was represented by a mean score on a 5-point scale, where 5 (Strongly Agree) represents the maximum score of the scale and 1 (Strongly Disagree) represents the minimum score. Table 1 illustrates the distribution of mean scores on the Attitude toward technology use scale.

Table 1. EFL teachers' attitudes toward the use of technology tools in EFL courses

Scale	SD	%	D	%	N	%	A	%	SA	%	Mean	SD
affect	0.2		2.6		3.2		43.0		51.0		3.54	0.54
cognition	0.3		1.0		12.7		64.7		21.3		4.04	0.59
behavior	0.4		2.9		8.4		57.3		31.3		4.13	0.5

SD, strongly disagree (1); D, disagree (2); N, neutral (3); A, agree (4); SA, strongly agree (5).

As Table 1 illustrates, teachers' overall attitudes toward ICT were positive. The respondents' positive attitudes were evident within the affective (mean = 3.54), cognitive (mean = 4.04) and behavioral (mean = 4.13) domains. Ninety four percent (94.0%) of the respondents had positive (43.0%) or highly positive (51.0) affect toward computers. These respondents reported that they had no apprehension of computers, were glad about the increase of computers, considered using computers enjoyable, felt comfortable about computers, and liked to talk with others about computers and to use them in teaching. Within the cognitive domain, most of the respondents agreed (64.7%) and strongly agreed (21.3%) that computers save time and effort, motivate students to do more study, enhance students' learning, are fast and efficient means of getting information, must be used in all subject matters, make schools a better place, are worth the time spent on learning them, are needed in the classroom, and generally do more good than harm. In the behavioral domain, the majority of the respondents expressed positive (57.3%) or highly positive (31.3%) behavioral intentions in terms of buying computers, learning about them, and using them in the near future.

3.5.2 Research question two: What are the Iranians EFL teachers' perceptions towards computer attributes?

This research question and the other remaining ones deals with the factors which are related to the EFL teachers' perceptions towards technology use in the classroom. Participants were asked to respond to 17, Likert-type statements dealing with their perceptions about the relative advantage of computers (items 1–5), their compatibility with teachers' current practices (items 6–10), their simplicity/non-complexity (items 11–14), and their observability (items 15–17). (Table 2).

Respondents' positive perceptions varied across the four computer attributes examined in this study.

Table 2. Mean and Standard Deviation of the computer attributes scale

Scale	SD	%	D	%	N	%	A	%	SA	%	Mean	SD
Advantage	0.1		1.1		9.8		22.3		62.7		3.54	0.54
Compatibility	0.3		1.4		24.2		61.4		12.7		4.04	0.59
Complexity	0.3		4.5		25.9		48.3		12.0		3.48	0.67
Observability	0.0		2.5		17.3		55.3		24.9		3.70	0.68

SD, strongly disagree (1); D, disagree (2); N, neutral (3); A, agree (4); SA, strongly agree (5).

Teachers' responses were most positive about the relative advantage of technology tools. (mean = 3.54; SD = 0.54). Teachers' perceptions of the compatibility of computers with their current practices were positive, too. (mean = 4.04; SD = 0.59). While the majority of respondents indicated that computer use suits their students' learning preferences and level of computer knowledge and is appropriate for many language learning activities,

Some of them were uncertain about whether or not computer use fits well in their curriculum goals, and the majority reported that class time is too limited for computer use. Similarly, teachers' perceptions of the simplicity of computers (i.e., "complexity" before the negative items were reversed) were also midway between neutral and positive (mean = 3.48; SD = 0.67). Most of the teachers' responses were split between positive and neutral about whether it is easy to understand the basic functions of computers, operate them, and use them in teaching. Finally, teachers' responses on the observability subscale indicate somewhat positive perceptions (Mean = 3.70, SD = 0.68).

3.5.3 Research question three: What are the teachers' perceptions of cultural relevance of computers to Iranian society and schools?

Participants were to indicate their perceptions towards Cultural issues through answering to 11 likert-Statements. (Table 3).

Table 3. Mean and Standard Deviation of the cultural perceptions scale

Scale	SD	%	D	%	N	%	A	%	SA	%	Mean	SD

Cultural perceptions	0.1	3.6	4.2	19.7	72.5	3.54	0.54
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SD, strongly disagree (1); D, disagree (2); N, neutral (3); A, agree (4); SA, strongly agree (5).

Most of the respondents had positive (19.7 or highly positive (72.5) perceptions about the relevance of technology tools to Iranian society and schools. Most of the respondents indicated that students need to know how to use computers for their future jobs. Moreover, most of them stated that computers will contribute to improving their standard of living and that knowing about computers earns one the respect of others and ensures privileges not available to others. In addition, the majority of the respondents indicated that computers do not increase their dependence on foreign countries, dehumanize society, or encourage unethical practices.

3.5.4 Research question four: What are the Iranians EFL teachers' perceptions of their knowledge about computer software?

Computer competence was represented on a 4-point, scale ranging from 1 (no competence) to 4 (much competence). Table 4 illustrates the distribution of mean scores on the 15- item computer competence scale.

Table 4. Mean and Standard Deviation of the computer competence scale

Scale	No competence	Little competence	Moderate competence	Much competence	Mean	SD
computer competence	5.7	12.6	37.5	44.2	1.78	0.67

SD, strongly disagree (1); D, disagree (2); N, neutral (3); A, agree (4); SA, strongly agree (5).

The majority of the respondents had much (43.3%) or moderate (39.5%) computer competence in handling most of the computer functions needed by educators. Five point seven (5.7%) of the respondents had little computer competence, and twelve point six (12.6%) reported to have little competence in computer uses, including software installation, printer usage, productivity software, telecommunication resources, basic troubleshooting, graphic application, grade keeping, educational software evaluation, organization tools, and virus removal.

3.5.5 Research question five: What are the teachers' attitudes of their level of access to computers?

Participants were asked to rate their level of access to potential computer places: at home, school and other places. Computer access of EFL teachers was represented by a mean score on a 5-point scale ranging from 1 (Never) to 5 (Daily) (Table 5).

Table 5. Mean and Standard Deviation of the computer access scale

Scale	Never	Once a month	Once a week	2-3 Times a week	Daily	Mean	SD
home	0.0	8.5	10.4	21.6	59.5	2.57	1.76
school	14.5	33.7	20.2	8.1	25.4	1.65	1.12
Other(cafes, university,...)	38.4	43.7	12.4	5.3	0.2	1.48	0.97

SD, strongly disagree (1); D, disagree (2); N, neutral (3); A, agree (4); SA, strongly agree (5).

As Table 5 illustrates, "Home" was the respondents' most frequent place of computer access. Most of them having access to it either daily (59.5%), biweekly or three times a week (21.6%), weekly (10.4%), or monthly (8.5%). Schools was second where the respondents had access to it either daily (25.4), biweekly or three times a week (8.1), weekly (20.2), or monthly (14.5). Only a small number of the respondents had access

to computers in places other than home and school. These places included Internet cafes, friends, relatives, university, and private work.

4. DISCUSSION

The study investigated the attitudes of high school EFL teachers in Iran toward ICT and the relationship of teachers' attitudes to a selected set of independent variables. Teachers' attitudes toward ICT have been universally recognized as an important factor for the success of technology integration in education (Rogers, 1995; Watson, 1998; Woodrow, 1992). Findings from this study show that many teachers have positive attitude toward using ICT and they consider it helpful in teaching.

The participants seemed to be willing to introduce ICT into schools and were able to base their judgments on understandable reasons. Thus, the majority of respondents considered computers as a useful educational tool that has the potential to bring about different improvements to their schools and classrooms.

Having formed positive attitudes toward ICT in education, participants are expected to be using ICT in their classrooms once computers become more available to them. In fact, the behavioral subscale of the computer attitude scale showed that most of teachers would like to learn

about computers and to use them in the near future.

The findings of the study suggest a very strong positive correlation between teachers attitudes toward ICT in education and their perceptions of computer attributes.

An examination of individual computer attributes shows that respondents were most positive about the relative advantage of computers as an educational tool. However, most of them were not sure about whether or not computers fit well in their curricular goals. The disparity between technological demands and the existing curricula has often been a major hindrance for technology integration (Ojo & Awuah, 1998). Besides, most of the teachers considered that the class time is too limited for computer use.

Teachers' concerns about the incompatibility of computers with the existing curricula as well as the lack of time for computer use indicate that educational change cannot simply be attained by placing computers in schools (Hodas, 1993). For a change to occur, many changes need to be made at the structural level as well as the pedagogic level. Otherwise, a consistent mismatch will occur between the industrial models of schooling and the information-age teaching/learning devices. Salamon (2002) refers to this mismatch as a "Technological Paradox" resulting from "the consistent tendency of the education system to preserve itself and its practices by the assimilation of new technologies into existing instructional practices" (pp. 71–72). Therefore, applying ICT changes in classes need changes in structural pedagogical and curriculum approaches.

Cultural perceptions were the second most important predictor of computer attitudes in this study. Most of teachers considered computers as useful means for improving education and standards of living in general. What however, the majority of the respondents felt the need for computers that better suit the Iranian culture and identity. It has often been noted that people who have not been quite influential in the design and development of ICT would prefer a localized version of these technologies (Damarin, 1998).

Therefore, it was not a surprise that almost all of this research has pointed to teachers' lack of computer competence as a main barrier to their acceptance and adoption of ICT in developing countries (Al-Oteawi, 2002; Na, 1993; Pelgrum, 2001). The results of the current study support and extend the findings from previous research. The majority of respondents reported having little or moderate competence in working with the computer and performing functions needed by educators. This finding did not support the assumption that teachers with low level of Computer access has often been one of the most notorious impediments to technology adoption

and integration worldwide (Abas, 1995a; Pelgrum, 2001).

computer competence usually have negative attitudes toward computers (Summers, 1990).

In addition, the relationship between computer attitudes and competence suggests that higher computer competence may eventually result in their use of computers within the classroom.

5. CONCLUSION

The findings of this study may be specific to EFL teachers in Iranian education, but their implications are significant to other educators as well. This study shows Teachers' positive attitudes, limitations characterizing the current status of ICT in Iranian schools: insufficient computer resources and teachers' low computer competence.

Since positive attitudes toward ICT usually foretell future computer use, policy-makers can make use of teachers' positive attitudes toward ICT to better prepare them for applying ICT in their teaching practices. One of the main limitations to technology implementation perceived by the teachers in this study is the mismatch between ICT and the class-time frame. It follows that placing computers in schools is not enough for making educational change. Using ICT in education requires equal changes in other aspects of education. Both policymakers and teachers share this responsibility. Policy-makers should provide additional planning time for teachers to experiment with new ICT-based approaches. This may be attained by reducing the teaching load for the teachers.

Other limitation reported in this study was teachers' low level of access to school computers. This implies that technology initiatives should include measures for preparing teachers to use computers in their teaching practices.

Teachers' preparation necessitates not merely providing additional training opportunities, but also aiding them in experimenting with ICT before being able to use it in their classrooms. If decision-makers want to involve teachers in the process of technology integration, they have to find ways to overcome the limitations perceived by the teachers.

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APPENDIX

IT perception Questionnaire

Dear Teacher,

This questionnaire consists of 5 sections. Each section begins with some directions pertaining to that part only. please read the directions carefully and provide your responses candidly in the format requested. Thanks for your cooperation.

Age:..... gender:..... Teaching experience: Level of your students:.....

Section (1)

Instructions: Please indicate your reaction to each of the following statements by circling the number that represents your level of agreement or disagreement with it. Make sure to respond to every statement.

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1. Computers do not scare me at all.					
2. Computers make me feel uncomfortable.					
3. I am glad there are more computers these days.					
4. I do not like talking with others about computers.					
5. Using computers is enjoyable .					
6. I dislike using computers in teaching.					
7. Computers save time and effort.					
8. Schools would be a better place without computers.					
9. Students must use computers in all subject matters.					
10. Learning about computers is a waste of time.					
11. Computers would motivate students to do more study.					
12. Computers are a fast and efficient means of getting information.					
13. I do not think I would ever need a computer in my classroom.					

14. Computers can enhance students_ learning.					
15. Computers do more harm than good					
16. I would rather do things by hand than with a computer					
17. If I had the money, I would buy a computer					
18. I would avoid computers as much as possible					
19. I would like to learn more about computers					
20. I have no intention to use computers in the near future					

Section (2) Instructions: Please indicate your reaction to each of the following statements by circling the number that represents your level of agreement or disagreement with it. Make sure to respond to every statement

1. Computers will improve education.					
2. Teaching with computers offers real advantages over traditional methods of instruction					
3. Computer technology cannot improve the quality of students' learning.					
4. Using computer technology in the classroom would make the subject matter more interesting					
5. Computers are not useful for language learning					
6. Computers have no place in schools					
7. Computer use fits well into my curriculum goals					
8. Class time is too limited for computer use					
9. Computer use suits my students_ learning preferences and their level of computer knowledge					
10. Computer use is appropriate for many language learning activities					
11. It would be hard for me to learn to use the computer in teaching					
12. I have no difficulty in understanding the basic functions of computers					
13. Computers complicate my task in the classroom					
14. Everyone can easily learn to operate a computer					
15. I have never seen computers at work					

16. Computers have proved to be effective learning tools worldwide					
17. I have seen some Iranian teachers use computers for educational purposes					

Section (3) Instructions: Please indicate your reaction to each of the following statements by circling the number that represents your level of agreement or disagreement with it. Make sure to respond to every statement.

	Strongly disagree	Disagree	Neutral	Strongly agree	Agree
1. Computers will not make any difference in our classrooms, schools, or lives					
2. Students need to know how to use computers for their future jobs					
3. Knowing about computers earns one the respect of others					
4. Computers will improve our standard of living					
5. Using computers would not hinder Iranian generations from learning					
6. People who are skilled in computers have privileges not available to others					
7. There are other social issues that need to be addressed before implementing computers in education					
8. Computers dehumanize society					
9. Working with computers does not diminish people's relationships with one other					
10. Computers encourage unethical practices					
11. Computers should be a priority in education					

Section (4) Instructions: Please indicate your current computer competence level (i.e., both your knowledge of and your skill in using computers) regarding each of the following statements. Make sure to respond to every statement.

	No competence	Little competence	Moderate competence	Much Competence
1. Install new software on a computer				
2. Use a printer				
3. Use a computer keyboard				

4. Operate a word processing program (e.g., Word)				
5. Operate a presentation program (e.g., PowerPoint)				
6. Use the Internet for communication (e.g., email & chat room)				
7. Use the World Wide Web to access different types of information				
8. Solve simple problems in operating computers				
9. Select and evaluate educational software				
10. Create and organize computer files and folders				
11. Remove computer viruses				

Section (5) instructions: Please identify how often you have computer access in the following contexts:

	Daily	2 or 3 times a week	Once a week	Once a month	Never
In your home					
At school (computer lab or library)					
Other (like Internet cafes, etc.)					