



L2 Teachers' reasons and perceptions for using or not using computer mediated communication tools in their classroom

Eskandar Doosti¹, Kivan Azizi¹ and Reza Moein²

¹Department of English Language, Payame Noor University, Iran.

²Department of English Language & Law, Payame Noor University, Iran.

ARTICLE INFO

Article history:

Received: 5 June 2014;

Received in revised form:

19 November 2014;

Accepted: 29 November 2014;

Keywords

CMC,
Synchronous and Asynchronous
Communication,
Teacher belief,
Teacher perception.

ABSTRACT

This study is an effort to explore Iranian EFL teachers' perceptions about integrating Computer Mediated Communication (CMC) tools in teaching and learning English and reasons they choose or avoid utilizing such tools in the classroom. 100 male and female English teachers with BA, MA, or PhD degree participated in this survey. A questionnaire was used for the purpose of the study. The findings reveal that the majority of teachers were positive towards computer mediated teaching. They asserted that CMC tools are time, energy, and money saving; interesting for the students; reduces cultural barriers by facilitating exposure to the authentic materials; enables teachers to encourage students beyond the limit of time and space; and enables learners to learn at their own pace. The results of the correlational analysis shows that the better teachers were at working with computers the more they showed positive attitudes towards applying technology in their teaching practice.

© 2014 Elixir All rights reserved.

Introduction

The utilization of technology in language learning and teaching has increased rapidly all over the world and teachers today frequently employ and explore new trends to facilitate teaching. Since the introduction of multimedia technology into education many studies that investigated the integration of technology and education and its influence on language teaching and learning have confirmed the advantages of using technology for pedagogical purposes and its positive impact on learning processes in different settings and contexts (Frigaard, 2002; Schofield & Davidson, 2003; Miner, 2004; Timucin, 2006) and share a common finding related to the effectiveness of technology-enhanced education and its usefulness in developing teaching methods (Wong 2004; Miner, 2004; Brodskaya & Thiele, 2004; Timucin 2006; Eugene, 2006; Hixon, 2008).

Technology has now equipped language learners with opportunities to learn in ways that was not possible before. New technologies have considerably changed global communication. The technologies have changed how people communicate and also influenced how they learn. The Internet, which transcends international boundaries, allows people to communicate with audiences far away. It also allows users around the globe to join one big learning environment. E-mail, a computer-mediated communication (CMC) technology that relies on the Internet, has become a common and inexpensive way to communicate and learn at a distance. Many scholars have addressed the topics of CMC (Leh, 1999) . With the introduction of Computer Mediated Communication (CMC) tools like chat rooms and discussion forums to language learning and teaching, learners find themselves in front of an open door to the real world target language setting and authentic social interaction in which they find the opportunity to have a better command over their own learning experience (Lam & Lawrence, 2002).

As international communication increases in the movement towards globalization, the demand for communicative

competence in English is increasing more and more in many countries of the world including Iran. Teaching English in Iranian schools fails to develop English proficiency for communication. The deficiency of communicative competence in English appears to result from the lack of interpersonal interaction in English as a foreign language (EFL) learning context where English is not used as a means of communication. It is considered very important for L2 teachers to construct an interactive learning environment in which learners can associate with each other in the target language and negotiate meaning through interaction. However, this kind of language interaction rarely appears in the Iranian EFL context. Especially, the classrooms have suffered severely from large sizes and limited opportunities for authentic language interaction, which is said to be necessary for language acquisition. In foreign language situations, it is very difficult to have exposure to the target language outside of the classroom. Introducing Computer Mediated Communication (CMC), "communication that takes place between human beings via the instrumentality of computers" (Herring, 1996), into language teaching and learning allows foreign language learners, specifically in an Iranian EFL environment where learners' accessibility to use the target language is very limited, to be greatly exposed to the target language (Blake, 2000; Leh, 1999; Lightbown & Spada, 1999).

The goal of integrating CMC into language learning is to expose learners to as much language input as possible and motivate them to be more autonomous to the learning. Although language teachers are no longer the center of language classrooms, to maximize the efficiency of CMC in language learning, teachers should carefully consider issues of how to design learning tasks, monitor learners' learning, and evaluate their language progress (Robertson, 2003, as cited in Larsari, 2011). The literature and previous research in this area suggests that CMC equipped teaching can provide language learners with strong motivation, equal participation and an

increase of their target language production (Kelm, 1992; Beauvois, 1992; Kern, 1995; Chun, 1998). In addition, it is suggested that synchronous CMC can facilitate the development of socio-linguistic and interactive competence (Kern, 1995; Chun, 1998). However, the foreign language teaching-learning process is an extremely complicated and multifaceted matter. Teachers bring into the classroom their own views of the target language, language tasks, teaching methods and techniques, and the teacher-learner power relationship. Teachers' perceptions play an important role in their actual practices while teaching target language and choosing instructional methods (Staub & Stern, 2002).

Williams and Burden (1997) argue that teachers are highly influenced by their beliefs. Teachers' beliefs is an extremely complicated phenomenon which involves various aspects, such as beliefs about the nature of language itself, language learning and teaching, learners, teachers, and the teacher-learner power relationship. Such beliefs definitely influence teachers' approaches to EFL teaching and their instructional choices and teaching activities.

A. Statement of the problem

Iranian English language classrooms suffer from limited opportunities for authentic language interaction, which is said to be necessary for language acquisition. In foreign language settings that the exposure to the target language is very difficult, CMC can provide the learners with more opportunities to engage in authentic and genuine communication that is characterized by "the uneven distribution of information, the negotiation of meaning through clarification requests and confirmation checks, topic nomination and negotiation by more than one speaker, and the right of interlocutors to decide whether to contribute to an interaction or not" (Nunan, 1987: 137). However, recent studies point to the teacher as the main factor in utilizing technology in classroom amongst the organizational and environmental barriers and factors (Schofield, 1995; Becker & Ravitz, 2001; Cuban *et al.*, 2001; Windschitl & Sahl, 2002; Conlon & Simpson, 2003). Teachers' beliefs and perceptions define their actual practices while teaching target language and employing instructional methods (Staub & Stern, 2002). Teachers' beliefs and perceptions about using CMC tools and integrating such tools into classroom activities is a decisive factor in their actual practice of computer mediated teaching. Their views about what tools, methods, and techniques can be employed, how significant and necessary are such tools, which is the best tool and method, how much time should be spent on computer mediated activities compared to other types of activities, what are the difficulties of such method, and what activities are more appropriate for computer mediated teaching can improve our understanding of Iranian teachers' perceptions and reasons for using or not using CMC tools in the classroom and help us find out how these beliefs and perceptions affect their instructional decisions and practices.

B. Objectives of the Study

This study's aim is to explore Iranian EFL teachers' perceptions about integrating Computer Mediated Communication (CMC) tools in teaching and learning English and reasons they choose or avoid utilizing such tools in the classroom. It will also investigate the teachers' beliefs about computer mediated teaching because as argued by Borg (2003) and Richards, Gallo and Renandya (2001) teacher cognition is shaped by teachers' prior experiences, school practices, educational theory, reading, and individual factors. Individual, organizational, and educational factors can play a role in shaping

teachers' beliefs; however, there is not much known about the extent of it.

C. Research Questions and Hypotheses

The present study tries to answer the following questions:

RQ1: What are the aspects of teachers' views on computer mediated communication and its implementation in the classroom?

RQ2: Is there any difference between the perceptions of teachers with different computer expertise levels about computer mediated teaching?

D. Significance of the Study

In the Iranian EFL context, in which learners don't have much contact with native speakers of English, the focus of language teaching has been placed on changing the classroom practice from the traditional passive lecture to more active computer mediated teaching and learning so that learners can be more easily exposed to target language use. Language institutes have had an increasing amount of interest in using computer mediated teaching as an instructional method, chiefly because they believe CMC tools has specific benefits for increasing learners' communication skills, interaction and their exposure to the target language. In this respect, exploring teachers' perceptions of CMC-based language instruction is of a great importance. Teaching a foreign language is a demanding task and considerable amount of attention should be paid to the teaching process. Hence, perceptions, beliefs and views of language teachers which greatly influence such process, should be carefully taken into consideration.

This research will show how CMC is perceived to be utilized in education. This will provide insights for syllabus designers to design and implement a more efficient teaching method that increases target language exposure during the limited teaching hours. It will also contribute to assist EFL teachers with their practical use of technology in the classroom. Thus, it is believed that the results of this study will have implications for syllabus and material design and classroom practice. Once curriculum developers and syllabus designers come to know how teachers perceive CMC-based language instruction, they can "if necessary," take into consideration those perceptions and plan alternative materials and activities in their syllabi to make language learning-teaching process a more effective and enjoyable one. Despite the concerns with implementation and the major barriers to use such as maintenance by technical staff, time consuming training and so on today computer technology is a crucial tool in school environment. Since it motivates students and encourages them to explore and to learn in a way previously unavailable to them. Technology may be one means by which doubtful teachers may develop positive beliefs about its role as a tool for learning when it is integrated into the curriculum, rather than merely added to it. Teachers need to believe that they can successfully put into practice the innovation within their own context; They also need to be convinced of the value of technology as a tool to supplement and improve classroom practice. Teachers who believe that they have the skills to implement computers successfully and who valued the outcomes associated with integration were more likely to be at the high end of the "technology user" spectrum. (Wozney, Venkatesh, and Abrami, 2006). Researchers and staff developers have suggested numerous and different factors that may influence the degree to which teachers implement and keep on in the implementation of educational innovations in general. These include personal and demographic factors related to teachers, the quality of professional development offered to teachers, the extent to

which administrative and curricular support is available to teachers, as well as the quality of teacher access to computer resources (Wozney, Venkatesh, and Abrami, 2006).

Literature Review

1. Teachers' beliefs and perceptions

Teachers bring with them beliefs about teaching which effects their use of technology in the classroom. Beliefs about teaching are referred to as “preferred ways of teaching” by teachers.(Teo, Chai, Hung, Lee, 2008). According to Pajares (1992) the difficulty in exploring the teachers’ beliefs lies in the multitude of definitions of beliefs .In order to understand, it is important to clearly define and understand what is meant by belief. Despite this diversity there is an agreement on some characteristics of teacher beliefs. Belief is a construct that name, define, and describe the structure and content of mental states that are thought to drive a person’s actions (Zheng, 2009).Most of the teachers' professional knowledge can be regarded more accurately as a belief. Beliefs vary in strength and kind; the ease with which teachers can change their beliefs is related to the strength of the particular beliefs under scrutiny (Block & Hazelip, 1995). Understanding teachers' beliefs requires making inferences based on what teachers say, intend, and do. Indeed, teachers’ beliefs represents a complex concept internally associated with their attitudes, expectations and personal experience. Beliefs and attitudes are key factors in whether teachers accept computer as a teaching tool in their teaching practices or not. Teachers who believe that they have the skills to implement computers successfully and who valued the outcomes associated with integration were more likely to be at the high end of the “technology user” spectrum. To maximize the implementation of educational innovations, our findings suggest that professional development must attend to the enhancement of teachers’ expectations of success. Teachers need to believe that they can successfully implement the innovation within their own context; if not, they may neither take the initial risk nor continue to persevere in implementing it. This suggests that it may be useful, but not sufficient, to show teachers how successful others have been with technology applications and to create communities of practitioners providing mutual support. Teachers also need to be convinced of the value of technology as a tool to supplement and improve classroom practice. Technology, which is well integrated into the curriculum, rather than merely added to it, may be one means by which skeptical teachers may develop positive beliefs about the role of technology as a tool for learning. (Wozney, Venkatesh, & Abrami 2006)

2. computer-mediated communication (CMC)

According to Romiszowski and Mason (2004) a working definition of computer-mediated communication is “communication between different parties separated in space and/or time, mediated by interconnected computers.” A definition of CMC that, pragmatically and with regards to the rapidly changing nature of communication technologies describes it as “the process by which people create, exchange, and perceive information using networked telecommunications systems that facilitate encoding, transmitting, and decoding messages” (December, 1996). Computer mediated communication (CMC) involves exchanges of information in textual, audio, and/or video formats that are transmitted and controlled by the use of computer and telecommunication technology.(Bubas, 2001). Computer-mediated communication (CMC) is a process in which human data interaction occurs through one or more networked telecommunication systems. A CMC interaction occurs through various types of networking

technology and software, including email, Internet Relay Chat (IRC), instant messaging (IM), Usenet and mailing list servers. CMC technology saves time and money in IT organizations by facilitating the use of all communication formats.

3. Educational goals for using computers

Taylor (1980) for understanding the educational application of computers suggested three models of computer use : the computer functions as a tutor, tool, and tutee. To function as a tutor the experts program the computer and the students are tutored by it. The computer presents the subject material, the student responds, the computer evaluates the response, and based on the results of the evaluation, determines what to present next. To function as a *tool*, it needs only some useful capability programmed such as statistical analysis, calculation, or word processing. Students can then use it to help them in a variety of subjects. For example, they might use it as a calculator in math and various science assignments etc. To function as a tutee the computer must be tutored , for this purpose the student or the teacher learn to program , and to talk to the computer in a language it understands. To use the computer as tutor and tool can both improve and enrich classroom learning, and neither requires student or teacher to learn much about computers.

Based on a study done by Drenoyianni and Selwood (1998) a great number of teachers declared that computer use encourages collaborative learning, individualized learning, motivates pupils , and serves as an aid in presenting new concepts, information, problems and situations as well as improving basic skills and concepts . The most important academic goal is developing learning strategies and problem solving abilities which is followed by the goal of developing basic skills and concepts , and developing of social skills .Warschauer (1995) claims that using computer-mediated communication in electronic communication facilitates communication, gives students a sense of achievement, empowers students and enhances learning. According to Razak and Asmawi(2004) the benefits of CMC are:

- a. CMC Facilitates Communication
- b. CMC Empowers Students
- c. CMC Enhances Learning

With CMC, particularly e-mail, the students will be involved more in active and interactive learning, dealing with issues and people from the actual world.

CMC can be used to transform students’ perspective on knowledge acquisition as a functional and relevant quest that will enrich and help them in the future.

One of the most important forms of online learning is Computer-based learning (CBL), which focuses on the interaction between the student and computer drills plus tutorials on one hand or micro-worlds and simulations on the other. Today, the widespread prototype in the regular school system is Computer-mediated communication (CMC), where the primary form of interaction is between students and instructors, mediated by the computer. CBT/CBL usually means individualized or self-study learning, while CMC involves teacher facilitation and requires flexible learning activities. It also provides tools for student and curriculum management.

In addition to classroom enrichment, learning technologies also play a major role in full-time distance teaching. While most quality offers still rely on paper, videos and occasional CBL materials, there is increased use of e-learning through forums, instant messaging, video-conferencing etc.

The integration of technology in the process of teaching and learning is thought by many researchers to increase student and teacher productivity as well as to make vast amounts of information available. 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. Furthermore, integrating technologies in learning classrooms has been shown to promote teachers and students' performance and motivation. The most important characteristics of CMC is the capability of supporting complex processes of interaction between the participants. (Mason and Romiszowski, 2004)

The first and the strongest factor that go beyond the view of language learning motivation in CMC is, communication, which students want to communicate with native or nonnative speakers in other countries, as well as with their classmates and their teacher. The benefits of this communication are seen as many: feeling part of a community, developing thoughts and ideas, learning about different people and cultures, and students' learning from each other. The second factor, empowerment, involves issues such as enhancing personal power, overcoming isolation, and making it less threatening to contact people. Third , students think that computers can help them learn better and more independently, they feel can learn faster, and become more creative (Warschauer, 1996).

One of the issues of application of CMC is in helping the students acquire academic literacy and gain access to their disciplinary discourse communities via their performance in academic writing tasks(Rui, 2007). Computer-mediated communication (CMC) allows interactions among geographically separated students, who can communicate and learn through dialogue exchanged on the Internet. Small-group discussion in the classroom can be replaced by transmitting messages via networked computers(Lo, 2009). Computer conferencing and electronic mail lies in their capabilities to support conversation and collaboration. Groups can work together to solve problems, argue about interpretations, negotiate meaning, engage in other educational activities including coaching, modeling, and scaffolding of performance.(Jonassen,et al. 1995).

Hyper-personal and interpersonal communication is facilitated by the use of computer network technology, which theoretically makes online participants communicate with each other independent of time and space. CMC affords a variety of media, combining text, audio, and video with hyperlink and hypermedia features. Another technological affordance of CMC is that it enables multi-dimensional communication including one-alone, one to-one, one-to-many, and many-to-many. (Nguyen, 2008).

According to Nguyen (2008) motivation , active learning , reflective learning , learner autonomy , and collaborative learning are pedagogical benefits of CMC

Methodology

1. Design of the Study

This study is an experimental effort to investigate Iranian language teachers' and learners' perceptions of the utilizations of Computer Mediated Communication tools in classroom. Randomly selected teachers participate in the research and

answer the questionnaires. Finally, the data will be collected and analyzed.

2. Participants

In this study a total of 100 male and female English teachers participated in this survey. Academic qualification of the teachers ranges from BA to MA to PhD; they are between 22-50 years old, and the number of years they had taught English varies, ranging from less than 2 years, and more than 10 years.

3. Instruments

To conduct the present study, the questionnaire will be devised to measure Iranian EFL teachers' perceptions of CMC tools in classroom setting. The questionnaire will be composed of some Likert-scale items and two open-ended items, and it will come in four sections. The first section contains demographic questions in order to gain information about the teacher's academic qualification, gender, age, and teaching experience. The second section is related to teachers' positions on classroom practice of computer mediated teaching. In this section, teachers will be asked to answer each question using a five-point scale ranging from 'strongly disagree' to 'strongly agree'. Finally, in the third section, teachers will be asked to rate their own reasons for choosing or avoiding the implementation of CMC tools, with reference to a few qualitative statements. To ensure the validity of the questionnaires and the appropriateness and comprehensibility of the questionnaire items, some experts in the field will be consulted. Moreover, the reliability coefficients (Cronbach's alpha) of instruments will be estimated. All of the reliability coefficients are expected to be high enough to enable the researchers to conduct statistical analysis of the entire questionnaires. The reliability of the questionnaire was tested using *Cronbach's alpha*. *Table 1 shows the result of the reliability test*. The Cronbach's alpha of the questionnaire was 0.71 that indicates a relevantly high consistency of the questions, therefore a reliable measure.

Procedures

In order to carry out the present study, the researcher is going to design a questionnaire to collect data on how language teachers perceive computer mediated teaching. At first, the participants were informed about the purpose of the study. Also, to remove anxiety, it was explained that their answers would not influence their grades. Then, the necessary information about the questionnaires was given. At last, the questionnaires were distributed among the participants in one session

5. Data analysis

After distributing the questionnaires among the English language teachers and collecting the required data. The data analysis process consists of two methodologies, Likert-type and open-ended item analysis. For the Likert-type items the answers will be tabulated and the frequency of the answers will be counted. A non-parametric Kruskal-Wallis test will be run to compare the beliefs of teachers with different academic qualifications and computer expertise level. SPSS (Statistical Package for Social Sciences) was used to analyze the data in this part. For the open-ended question the answers will be surveyed and the most repeated patterns will be revealed.

Results

In the next part of this chapter the reliability of the questionnaire is tested and the result is reported. Following that, the results of the analysis of the attitudes and positions of teachers towards using computer in their classrooms are presented. The next part shows the analyses of different aspects of teachers' views about computer mediated communication (CMC) and the application of CMC tools in teaching practice. And finally in the last part of this chapter the result of the

analyses of comparing the positions and beliefs of teachers with different academic qualification towards and about computer mediated teaching and CMC performance.

1. Addressing the First Research Question

Section two of the questionnaire consisted of fifteen items that investigated different aspects of teachers' views about CMC and section four of the questionnaire asked about the personal experience of these teachers with CMC tools in the classroom and their reasons for using or avoiding these tools. These two sections corresponded to the following research questions put forward in chapter one:

What are the aspects of teachers' views on computer mediated communication and its implementation in the classroom?

To scrutinize the teachers' views on CMC tools, I will analyze the responses to each statement separately.

Table 4 is the summery of the response to statement 1: *Computer-Mediated Communication messages are social forms of communication.*

As the table shows the majority of the participants accept CMC messages as a form of social communication. Only 27 percent were neutral.

Table 5 reflects the descriptive statistics of participants' responses to the second statement:

Computer-Mediated Communication messages are an informal and casual way to communicate.

As table 5 shows the participants are not unanimous about this statement. While 29 percent of the teachers consider CMC messages informal and casual way of communication and 29 percent of them are neutral, 52 percent disagree.

In table 6 the responses to the third Question 3, *Computer-Mediated Communication messages convey feeling and emotion*, is summarized.

The responses to the third statement were controversial. While an equal percent of 18 agree and disagree with the statement, the rest are neutral.

Table 7 shows the summary of results of teachers' responses to the fourth statement: *Computer-Mediated Communication messages are impersonal.*

As table 7 demonstrates the majority of teachers believe that CMC messages are personal and have qualities and characteristics.

Table 8 reveals the information regarding the participants responses to the fifth statement: *Computer-Mediated Communication is not confidential enough to use to communicate personal and/or sensitive information.*

As it is clear in the above table, most teachers disagree the questioning of CMC privacy and find it confidential. However, 29 percent are neutral and only 17 percent believe that CMC is not confidential enough to be used in personal communication.

Table 9 corresponds to statement 6 in the questionnaire: *Computer-Mediated Communication is a sensitive means of communicating with others.*

A significant percentage of 67 are in agreement with the sixth statement and almost the rest are neutral.

Table 10 shows the summery of participants' answers to the seventh statement:

Using Computer-Mediated Communication to communicate with others is pleasant.

Table 10. Results of the descriptive statistics of teachers' responses to statement 7

Table 10 shows that most teachers find using CMC tools in communicating with others pleasant.

Table 11 reveals the descriptive statistics of the eighth statement: *Users of Computer-Mediated Communication are normally responsive to messages.*

Table 11. Results of the descriptive statistics of teachers' responses to statement 8

Table 11 shows that the majority of teachers believe that the users of CMC tools normally respond to the messages they receive.

Table 12 corresponds to the ninth question: *The language people use to express themselves in online communication is stimulating.*

Table 12. Results of the descriptive statistics of teachers' responses to statement 9

According to table 12, 63 percent of the teachers find the online language motivating and interesting, 30 percent do not take any side, and only 7 percent of the teachers oppose the statement.

Table 13 shows the summary of the responses to the tenth question: *It is difficult to express what I want to communicate through Computer-Mediated Communication.*

Table 13. Results of the descriptive statistics of teachers' responses to statement 10

Table 13 demonstrates that while 28 percent of the teachers find it difficult to express themselves through CMC tools, the rest are comfortable in using CMC tools as means of communication.

Table 14 reveals the statistical information of teachers' responses to statement 11: *The language used to express oneself in online communication is meaningful.*

Table 14. Results of the descriptive statistics of teachers' responses to statement 11

As it is obvious in the table, all the participants find the online language meaningful unanimously.

Table 15 is related to the teachers' answers to statement 12: *The language used to express oneself in online communication is easily understood.*

Table 15. Results of the descriptive statistics of teachers' responses to statement 12

As the table, above, shows more than half the participants think that the language used in online communication is easily understood. 24 percent of the teachers are on the fence about the understandability of the online language and one in ten participants find the online communication vague.

Table 16 reflects the results of teachers' responses to statement 13: *I am comfortable participating, if I am familiar with the topics.*

Table 16 reveals that all teachers feel comfortable in participating in online communication if the topics are familiar to them.

Table 17 relates to the results of answers to statement 14: *I am comfortable communicating with a person who is not familiar to me.*

Table 17. Results of the descriptive statistics of teachers' responses to statement 14

According to table 17, teachers differ in their attitude towards communicating a stranger in an online environment. While 57 percent of the participants feel at ease when communicating with a person they do not know, 41 percent find it difficult and 3 percent are undecided.

Finally, the participants' evaluation of the last statement, *I am comfortable communicating with a person who is familiar to me*, is summarized in table 18, below.

As the above table shows, all the participants feel it comfortable to communicate with a known person.

Cronbach's Alpha	N of Items
.710	35

Table 3. The Results of the Teachers' Responses to Section Two

	N	Sum	Mean
CMC1	100	401	4.01
CMC2	100	267	2.67
CMC3	100	300	3.00
CMC4	100	251	2.51
CMC5	100	246	2.46
CMC6	100	368	3.68
CMC7	100	429	4.29
CMC8	100	384	3.84
CMC9	100	352	3.52
CMC10	100	237	2.37
CMC11	100	404	4.04
CMC12	100	364	3.64
CMC13	100	445	4.45
CMC14	100	328	3.28
CMC15	100	432	4.32

Table 4. Results of the descriptive statistics of teachers' responses to statement 1

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	N	27	27.0	27.0	27.0
	A	45	45.0	45.0	72.0
	SA	28	28.0	28.0	100.0
	Total	100	100.0	100.0	

Table 5. Results of the descriptive statistics of teachers' responses to statement 2

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	D	52	52.0	52.0	52.0
	N	29	29.0	29.0	81.0
	A	19	19.0	19.0	100.0
	Total	100	100.0	100.0	

Table 6. Results of the descriptive statistics of teachers' responses to statement 3

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	D	18	18.0	18.0	18.0
	N	64	64.0	64.0	82.0
	A	18	18.0	18.0	100.0
	Total	100	100.0	100.0	

Table 7. Results of the descriptive statistics of teachers' responses to statement 4

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	D	59	59.0	59.0	59.0
	N	31	31.0	31.0	90.0
	A	10	10.0	10.0	100.0
	Total	100	100.0	100.0	

Table 8. Results of the descriptive statistics of teachers' responses to statement 5

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	SD	17	17.0	17.0	17.0
	D	37	37.0	37.0	54.0
	N	29	29.0	29.0	83.0
	A	17	17.0	17.0	100.0
	Total	100	100.0	100.0	

Table 9. Results of the descriptive statistics of teachers' responses to statement 6

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	SD	3	3.0	3.0	3.0
	N	30	30.0	30.0	33.0
	A	60	60.0	60.0	93.0
	SA	7	7.0	7.0	100.0
	Total	100	100.0	100.0	

Table 10. Results of the descriptive statistics of teachers' responses to statement 7

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	N	10	10.0	10.0	10.0
	A	51	51.0	51.0	61.0
	SA	39	39.0	39.0	100.0
	Total	100	100.0	100.0	

Table 11. Results of the descriptive statistics of teachers' responses to statement 8

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	D	6	6.0	6.0	6.0
	N	7	7.0	7.0	13.0
	A	84	84.0	84.0	97.0
	SA	3	3.0	3.0	100.0
	Total	100	100.0	100.0	

Table 12. Results of the descriptive statistics of teachers' responses to statement 9

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	SD	4	4.0	4.0	4.0
	D	3	3.0	3.0	7.0
	N	30	30.0	30.0	37.0
	A	63	63.0	63.0	100.0
	Total	100	100.0	100.0	

Table 13. Results of the descriptive statistics of teachers' responses to statement 10

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	SD	19	19.0	19.0	19.0
	D	53	53.0	53.0	72.0
	A	28	28.0	28.0	100.0
	Total	100	100.0	100.0	

Table 14. Results of the descriptive statistics of teachers' responses to statement 11

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	A	96	96.0	96.0	96.0
	SA	4	4.0	4.0	100.0
	Total	100	100.0	100.0	

Table 15. Results of the descriptive statistics of teachers' responses to statement 12

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	D	10	10.0	10.0	10.0
	N	24	24.0	24.0	34.0
	A	58	58.0	58.0	92.0
	SA	8	8.0	8.0	100.0
	Total	100	100.0	100.0	

Table 16. Results of the descriptive statistics of teachers' responses to statement 13

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	A	55	55.0	55.0	55.0
	SA	45	45.0	45.0	100.0
	Total	100	100.0	100.0	

Table 17. Results of the descriptive statistics of teachers' responses to statement 14

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	SD	9	9.0	9.0	9.0
	D	32	32.0	32.0	41.0
	N	3	3.0	3.0	44.0
	A	34	34.0	34.0	78.0
	SA	22	22.0	22.0	100.0
	Total	100	100.0	100.0	

Table 18. Results of the descriptive statistics of teachers' responses to statement 15

	Frequency	Percent	Valid Percent	Cumulative Percent
ValidA	68	68.0	68.0	68.0
	32	32.0	32.0	100.0
	Total	100	100.0	100.0

Table 24. The descriptive results of not experienced, novice, intermediate, and expert teachers' responses

	Com_Expertise_Level	N	Mean Rank
Sum_Com	Not Experienced	5	28.00
	Novice	16	25.47
	Intermediate	56	52.84
	Expert	23	67.11
	Total	100	

Table 25. Results of Kruskal-Wallis test with the four independent group

	Sum_Com
Chi-Square	22.932
df	3
Asymp. Sig.	.000

Table 26. Aspects of Teachers' Views about CMC

• CMC messages are social forms of communication.
• CMC messages are not informal and casual ways to communicate.
• CMC messages have qualities or characteristics.
• Is confidential enough to use to communicate personal and/or sensitive information.
• It is pleasant to communicate through CMC tools.
• Users are responsive to messages most of the times.
• It is easy to express through CMC.
• The language used to express oneself in online communication is meaningful.
• It is comfortable participating, if familiar with the topics.
• It is comfortable communicating with a person who is familiar.

Table 8. The descriptive results of not experienced, novice, intermediate, and expert teachers' responses

	Sum_Com
Chi-Square	22.932
df	3
Asymp. Sig.	.000

Table 9. Results of Kruskal-Wallis test with the four independent group

	Com_Expertise_Level	N	Mean Rank
Sum_Com	Not Experienced	5	28.00
	Novice	16	25.47
	Intermediate	56	52.84
	Expert	23	67.11
	Total	100	

Teachers' Belief and Computer Expertise

To examine how the beliefs and perceptions of teachers about computer mediated teaching (part two of the questionnaire) vary because of differences in their level of computer expertise (fifth research question) a non-parametric Kruskal-Wallis test was run similar to the previous part. Table 24 demonstrates the descriptive results and table 25 represents the results of non-parametric test.

Table 24 shows that there is a statistically significant difference in teachers' beliefs depending on their level of computer expertise, $\chi^2(3) = 22.932, P = 0.000$. Table 25 reveals that as teachers develop their computer skills, they grow more positive attitudes towards applying computers in teaching English language generally (mean rank (expert)= 67.11 > mean rank (intermediate)= 52.84 > mean rank (novice)=25.47).

Discussion

The findings confirmed that the majority of Iranian EFL teachers show positive attitudes towards the use of computer in their English classroom and find teaching with the aid of computer effective both for the teachers and learners. In fact, it showed those teachers who were highly skilled with computer were more willing to apply computers in their classrooms. This is in line with Bauer and Kenton (2005) who found that teachers, who were proficient with technology, were innovative in using technology in their teaching and managed to overcome barriers.

The findings also confirmed Zhao (2007) who, following a qualitative research to investigate the perspectives and experiences of 17 social studies teachers, concluded that most teachers were willing to use technology and expressed positive experiences with technology integration training.

Looking through the perspective of Iranian EFL teachers, the study divided the advantages of applying CMC tools to foreign language teaching into five categories: time, energy, and money saving; interesting for the students; reduces cultural barriers by facilitating exposure to the authentic materials; enables teachers to encourage students beyond the limit of time and space; and enables learners to learn at their own pace. These categories are in line with Blake (2001) and Warschauer & Healey (1998) who confirmed that integrating technology appropriately into language classrooms provides access to authentic materials thus greater opportunities for communication and interaction and promotes learner motivation.

In the second part of the study where the aspects of teachers' views about computer mediated communication were investigated the results showed that teachers were comfortable communication with familiar persons through CMC tools, they accepted that CMC messages are social forms of communication and have qualities or characteristics but according to them CMC messages are not informal and casual ways to communicate, something that is not in agreement with Tu's exploratory factor analysis (2002). Again while Tu's (2002) model show that CMC messages convey feeling and emotion, the results of the study shows that the majority of Iranian EFL teachers disagree.

These two points of disagreement in the beliefs and perspectives of Iranian EFL teachers seem to a barrier to an optimal application of online content as an undeniable source of authentic communication. It is also inconsistent with what most teachers have mentioned in response to the third research question about the contribution of CMC to reducing cultural barriers. These contradictions in the beliefs and perceptions of teachers about computer mediated teaching and computer mediated communication may be due to the fact that these concepts are new in the Iranian teaching environment and there

has not been any systematic educational program for teachers. There is a need for an organized program for teachers including the introduction of different CMC tools and computer programs as well as guidelines for successful technology integration in language teaching.

The above points were confirmed when we looked at the analyses results of the effect of academic qualification and computer expertise. It revealed that PhD teachers and technologically competent teachers showed more positive attitudes towards applying computers in teaching English language.

Overview

In the remaining sections of this chapter first, the problem of the thesis study is restated and a summary of the findings is presented. Then, the results are discussed and the findings are compared with the findings of the previous related studies. After that based on the findings of the study the answers to the research questions are reported and the conclusions are made. Pedagogical implications and applications of the findings are discussed in the next section. Last but not least, remaining issues and suggestions regarding further research are put forward.

5.2.2. What are the aspects of teachers' views on computer mediated communication and its implementation in the classroom?

The findings of the study addressing the second research question are summarized in table 26, below.

Teachers' Belief and their Computer Expertise Level

Finally, in the last part the influence of computer expertise on teachers' beliefs and perspectives about computer mediated teaching was tested and the results showed that there is a significant difference between teachers at different computer expertise level. In fact, the better teachers were at working with computers the more they showed positive attitudes towards applying technology in their teaching practice.

Addressing the Second Research Question

In this part I will summarize the responses of the participants in part three of the questionnaire. In part three of the questionnaire the participants were asked about their reasons for using or avoiding CMC tools in their teaching practice. The majority of teachers asserted that applying CMC tools in their teaching practice is time and energy saving and sometimes more economic. They suggest that CMC tools make information transfer and communication easier, especially in listening skill. Another positive aspect of CMC tools in teaching language that was broadly accepted by the teachers was the fun part of these tools. Most teachers believed that CMC tools make language lessons more interesting to the students. In addition, they suggested that using internet in teaching can decrease the cultural issues that language learners may face. Some teachers mentioned that CMC tools enable them to keep connection with students and to motivate them to cooperate more both inside and outside the classroom. They also believed that students feel more secure using asynchronous tools like email and discussion threads through which they have additional processing time for critical thinking. On the other hand, a few teachers argued against applying CMC tools in teaching. They suggested that computers may decrease the amount of teacher-student or student-student interactions in the classroom. They also believed that considering learners' needs may be overlooked in an online language teaching class. Moreover, they proposed the possibility that some students may not have the time or may not like such ways of communication.

Teachers' Belief and Computer Expertise

To examine how the beliefs and perceptions of teachers about computer mediated teaching (part two of the questionnaire) vary because of differences in their level of computer expertise (fifth research question) a non-parametric Kruskal-Wallis test was run similar to the previous part. Table 8 demonstrates the descriptive results and table 9 represents the results of non-parametric test. Table 8 shows that there is a statistically significant difference in teachers' beliefs depending on their level of computer expertise, $\chi^2(3) = 22.932, P = 0.000$. Table 9 reveals that as teachers develop their computer skills, they grow more positive attitudes towards applying computers in teaching English language generally (mean rank (expert)= 67.11 > mean rank (intermediate)= 52.84 > mean rank (novice)=25.47).

Discussion

The findings confirmed that the majority of Iranian EFL teachers show positive attitudes towards the use of computer in their English classroom and find teaching with the aid of computer effective both for the teachers and learners. In fact, it showed those teachers who were highly skilled with computer were more willing to apply computers in their classrooms. This is in line with Bauer and Kenton (2005) who found that teachers, who were proficient with technology, were innovative in using technology in their teaching and managed to overcome barriers. The findings also confirmed Zhao (2007) who, following a qualitative research to investigate the perspectives and experiences of 17 social studies teachers, concluded that most teachers were willing to use technology and expressed positive experiences with technology integration training. Looking through the perspective of Iranian EFL teachers, the study divided the advantages of applying CMC tools to foreign language teaching into five categories: time, energy, and money saving; interesting for the students; reduces cultural barriers by facilitating exposure to the authentic materials; enables teachers to encourage students beyond the limit of time and space; and enables learners to learn at their own pace. These categories are in line with Blake (2001) and Warschauer & Healey (1998) who confirmed that integrating technology appropriately into language classrooms provides access to authentic materials thus greater opportunities for communication and interaction and promotes learner motivation.

In the second part of the study where the aspects of teachers' views about computer mediated communication were investigated the results showed that teachers were comfortable communication with familiar persons through CMC tools, they accepted that CMC messages are social forms of communication and have qualities or characteristics but according to them CMC messages are not informal and casual ways to communicate, something that is not in agreement with Tu's exploratory factor analysis (2002). Again while Tu's (2002) model show that CMC messages convey feeling and emotion, the results of the study shows that the majority of Iranian EFL teachers disagree. These two points of disagreement in the beliefs and perspectives of Iranian EFL teachers seem to be a barrier to an optimal application of online content as an undeniable source of authentic communication. It is also inconsistent with what most teachers have mentioned in response to the third research question about the contribution of CMC to reducing cultural barriers. These contradictions in the beliefs and perceptions of teachers about computer mediated teaching and computer mediated communication may be due to the fact that these concepts are new in the Iranian teaching environment and there has not been any systematic educational program for teachers. There is a need

for an organized program for teachers including the introduction of different CMC tools and computer programs as well as guidelines for successful technology integration in language teaching.

The above points were confirmed when we looked at the analyses results of the effect of academic qualification and computer expertise. It revealed that PhD teachers and technologically competent teachers showed more positive attitudes towards applying computers in teaching English language.

1. For what practical reasons do teachers choose, or avoid, implementing CMC tools?

The answers to the third research question concerning the motives behind the use or avoidance of CMC tools by teachers are summarized below:

Conclusion

In Iranian EFL context, because learners don't have direct contact with native speakers of English, there has been an emphasis on authenticity in language classrooms recently contrary to the traditional lecture for the learners to become more acquainted with the target language in use. As a result, teachers are keener on using computer mediated communication tools, primarily because they believe CMC benefits learners' communication skills and interaction. Online language tasks can be used to arouse learners' motivation for learning a foreign language. These tasks don't just give variety to the language teaching methodology but also make the classroom much more fun and interesting; besides, they can produce a lively atmosphere in the classroom which gives language instruction more creativity.

Generally, the findings of this study manifested the fact that the majority of Iranian EFL teachers have positive attitudes towards computer mediated teaching and using computer mediated communication tools in the classroom however, they did not understand CMC concepts and their integration into teaching language deeply. While the results of the questionnaire showed that teachers were unwilling to participate in a computer training program the need for such a program to familiarize the teachers with the newest CMC tools and the optimum way to integrate such tools in teaching different language skills and components was strongly felt.

Implications of the Study

Concerning the results of the study, some notifying suggestions are given to teachers and teacher trainers. First, because teachers' attitudes towards computer mediated teaching highly influence classroom practice, it is necessary for the teachers to have a positive attitude so that it can be successfully used. Although EFL teachers in Iran are not accustomed to a computer mediated language teaching class in the educational system, it does not mean that one should put it aside and follow traditional methods of language teaching. Second, as the attitudes of Iranian EFL teachers to CMC were rather positive in this study, EFL teachers are encouraged to adopt these tools in their classrooms. In this regard, the managers of private English institutes should also do their best to promote computer mediated teaching at their institutes. This involves providing the required tools and equipments and a systematic training program because some teachers know little about applying computer mediated communication tools. That is why they should be given the chance to educate themselves in fields relating to CMC tools and the putting into teaching practice of these tools. For this purpose, computer training programs should properly deal with the strengths and weaknesses of CMC tools as a language teaching tool. Third, lack of confidence is one of the

reasons why teachers avoid computer mediated teaching therefore, it should be given consideration to overcome these impediments in the classroom.

References

- [1] Bauer, J., & Kenton, J. (2005). Toward technology integration in schools: Why it is not happening. *Journal of Technology and Teacher Education*, 13, 519–546.
- [2] Beauvois, M. (2000). Computer assisted classroom discussions in the foreign language classroom: Conversation in slow motion. *Foreign Language Annals*, 25, 455-464.
- [3] Becher, H. J. & Ravitz, J. L. (2001). Computer use by teachers: are Cuban's predictions correct? Paper presented at the *Annual Meeting of the American Educational Research Association*. Seattle, WA, March.
- [4] Blake, R. (2001). What language professionals need to know about technology. *ADFL Bulletin*, 32, 3, 93-99.
- [5] Blake, R. (2000). Computer Mediated Communication. A Window on L2 Spanish Interlanguage. *Language Learning & Technology*, 4(1), 120-136.
- [6] Block, J. H., & Hazelip, K. (1995). Teachers' beliefs and belief systems. In L. W. Anderson (Ed.), *International encyclopedia of teaching and teacher education* (2nd ed., pp. 25-28). New York: Pergamon/Borg, S. (2003). Teacher cognition in language teaching: A review of research on what language teachers think, know, believe, and do. *Language Teaching*, 36, 81–109.
- [7] Borg, S. (2003). Teacher cognition in language teaching: A review of research on what language teachers think, know, believe, and do. *Language Teaching*, 36, 81–109.
- [8] Brodskaya, M., & Thiele, R. (2004). *Learning community in a combined ESL computer applications course*. Retrieved from http://www.cccone.org/scholars/04-05/Marina_Romy_final_report.pdf. (updated, July 25, 2007).
- [9] Bubas, G. (2001). Computer mediated communication theories and phenomena: Factors that influence collaboration over the Internet. Zagreb, submitted for the 3rd CARNET Users Conference 1-15.
- [10] Chen Y. H. (2005, March). Computer mediated communication: The use of CMC to develop EFL learners' communicative competence. *Asian EFL Journal*, 7 (1). Retrieved November 09, 2007 from http://www.asian-efl-journal.com/march_05_yhc.php
- [11] Cheng, R. (2007). The role of computer-mediated communication in non- native speakers' acquisition of academic literacy. *Graduate School Theses and Dissertations*. 667. available at : <http://scholarcommons.usf.edu/etd/667>.
- [12] Chun, D. (1998). Using Computer Assisted Class Discussion to Facilitate the Acquisition Interactive Competence. In J. Swaffar, S. Romano, P. Markley & K. Arens (eds.), *Language Learning Online: Theory and Practice* 2(pp. 57-80). Austin, Tx: Labyrinth Publications.
- [13] Conlon, T. & Simpson, M. (2003). Silicon Valley versus Silicon Glen: the impact of computers upon teaching and learning: a comparative study. *British Journal of Educational Technology*, 34, 137–150.
- [14] Cuban, L., Kirkpatrick, H. & Peck, C. (2001). High access and low use of technologies in high school classrooms: explaining an apparent paradox. *American Educational Research Journal*, 38, 813–834.
- [15] December, J. (1996). What is Computer-Mediated Communication? *Online* Retrieved June, 2008, from <http://www.december.com/john/study/cmc/what.html> [16] Drenoyianni, H. & Selwood, I. (1998). Conceptions or misconceptions? Primary teachers' perceptions and use of computers in the classroom. *Education and Information Technologies*, 3, 87-99.
- [17] Eugene, J. (2006). How teachers integrate technology and their beliefs about learning: Is there a connection? *Journal of Technology and Teacher Education*, 14(3), 581-597.
- [18] Frigaard, A. (2002). *Does the computer lab improve student performance on vocabulary, grammar, and listening comprehension?* ERIC Document Reproduction Service No. ED476749.
- [19] Herrings, S. (Eds). (1996). *Computer Mediated Communication: Linguistic, social and cross cultural perspectives*. Amsterdam: Benjamins.
- [20] Hixon, E. (2008). Team-based online course development: A case study of collaboration models. *Online Journal of Distance Learning Administration*. 11(4). Retrieved from <http://www.westga.edu/~distance/ojdl/winter114/hixon114.pdf>. (accessed August 4, 2003)
- [21] Jonassen, D.H., & Reeves, T.C. (1996). Learning with Technology: Using Computers as Cognitive Tools. In D.H. Jonassen (Ed.), *Handbook of research for educational communication and technology* (pp. 693-719). New York: Simon and Schuster.
- [22] Kelm, O. (1992). The use of synchronous computer networks in second language instruction. A preliminary report. *Foreign Language Annals*, 25(5), 441-454.
- [23] Kern, R. G. (1995). Learner's and teacher's beliefs about language learning. *Foreign Language Annals*, 28(1), 71-92.
- [24] Lam, Y., & Lawrence, G. (2002). Teacher-student role redefinition during a computer-based second language project: Are computers catalysts for empowering change? *Computer Assisted Language Learning*, 15(3), 295-315.
- [25] Larsari, V. (2011). Computer mediated communication: The use of CMC to promote EFL learners' communicative competence. *Contemporary Online Language Education Journal (COLEJ)*, 1, 41-51.
- [26] Leh, A.S.C. (1999). Computer-mediated communication and foreign language learning via electronic mail. *Interactive Multimedia Electronic Journal of Computer-Enhanced Learning*. Retrieved on 10, Oct, 2004 from <http://imej.wfu.edu/articles/1999/2/08/index.asp>.
- [27] Lightbown, P. M. & Spada, N. (1999). *How languages are learned* (Revised Edition) Oxford: Oxford University Press.
- [28] Lo, H. (2009). Utilizing Computer-mediated Communication Tools for Problem-based Learning. *Educational Technology & Society*, 12 (1), 205–213.
- [29] Miner, T. (2004). Using technology to enhance learning: Instructor- or Student-Moderated Discussion Boards: Which are more effective? Retrieved from http://www.cccone.org/scholars/0405/TomMiner_final_report.pdf.
- [30] Nguyen, L. (2008). Computer mediated communication and foreign language education: Pedagogical features. *International journal of instructional technology and distance learning*. 5(12), 23-44.
- [31] Nunan, D. (1987). Communicative language teaching. Making it work. *ELT Journal* 41(2), 136-145.
- [32] Pajares, M. F. (1992). Teachers' beliefs and educational research: Cleaning up a messy construct. *Review of Educational Research*, 62(3), 307-332.
- [33] Razak, R. & Asmawi, A. (2004). The use of dialogue journal through E-mail technology in developing writing interest and skills. *Malaysian Online Journal of Instructional Technology (MOJIT)*. 1(2), 14-23.

- [34] Richards, J. C., Gallo, P. B., & Renandya, W. A. (2001). Exploring Teachers' Beliefs and the Processes of Change. *PAC Journal*, 1,1, 41-58.
- [35] Schofield, J. W. & Davidson, A. L. (2003). The impact of internet use on relationships between teachers and students. *Mind, Culture, and Activity*, 10 (1), 62-79.
- [36] Schofield, J. W. (1995) *Computers and Classroom Culture*. Cambridge: Cambridge University Press.
- [37] Staub, F. C. & Stern, E. (2002). The nature of teachers' pedagogical content beliefs matter for students' achievement gains: quasi-experimental evidence from elementary mathematics, *Journal of Educational Psychology*, 94, 344-355.
- [38] Teo, T., Lee, C. & Chai, C. (2008). Understanding pre-service teachers' computer attitudes: applying and extending the technology acceptance model. *Journal of Computer Assisted Learning* . 24, 128-143.
- [39] Timucin, M. (2006). Implementing CALL in the EFL context. *ELT Journal*, 60(3), 262-271.
- [40] Tu, C. H. (2002). The Impacts of Text-based CMC on Online Social Presence. *The Journal of Interactive Online Learning*, 1(2), 1-24.
- [41] Warschauer, M., & Healey, D. (1998). Computers and language learning: an overview. *Language teaching*, 31, 57-71.
- [42] Williams, M. & Burden, R. L. (1997). *Psychology for language teachers*. Cambridge: Cambridge University Press.
- [43] Windschitl, M. & Sahl, K. (2002) Tracing teachers' use of technology in a laptop computer school: the interplay of Teacher beliefs, social dynamics, and institutional culture. *American Educational Research Journal*, 39, 165-205.
- [44] Wong, L. (2004). Using technology in a low-advanced ESL class. Retrieved from http://www.cccone.org/scholars/04-05/LettyWong_final_report.pdf
- [45] Wozney, L., Venkatesh, V. and Abrami, P. (2006). Implementing Computer technologies: Teachers' Perceptions and Practices. *Jl. of Technology and Teacher Education* . 14(1), 173-207.
- [46] Zaidiyeen, N., Mei, L. & Fook, F. (2010). Teachers' Attitudes and Levels of Technology Use in Classrooms: The Case of Jordan Schools. *International Education Studies*. 3(2), 211-218.
- [47] Zhao, Y. (2007). Social studies teachers' perspectives of technology integration. *Journal of Technology and Teacher Education*, 15 (3), 311-333.
- [48] Zheng, H. (2009). A Review of Research on EFL Pre-Service Teachers' Beliefs and Practices. *Journal of Cambridge Studies*. 4(1), 73-81.