

THE IMPACT OF CALL INSTRUCTION ON ENGLISH LANGUAGE
TEACHERS' USE OF TECHNOLOGY IN LANGUAGE TEACHING

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ABSTRACT

THE IMPACT OF CALL INSTRUCTION ON ENGLISH LANGUAGE TEACHERS' USE OF TECHNOLOGY IN LANGUAGE TEACHING

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This study investigates the impact of CALL training on in-service language teachers' use of CALL-based activities in their classrooms and what factors influence their use of these activities in their classroom. The participants included 35 pre-service English as a Foreign Language (EFL) teachers who took an undergraduate-level elective CALL course (FLE318) offered during the 2008-2009 academic year in the Department of Foreign Language Education at Middle East Technical University and 25 of these participants who started teaching English during the Fall semester in the academic year 2009-2010 at several private and state institutions. Both quantitative and qualitative research methods were applied. The journals kept by the participants during and after the training, the lesson plans of micro and macro teaching, the questionnaires given to the participants to determine their perceived computer knowledge, the interview sessions held with the participants' on their practices showed that the training provided to the participants helped them infuse a variety of CALL-based materials and tools into their classroom practices. The analyses also indicated that the most paramount factors or

issues that affect the infusion of CALL-based materials in language teaching and learning are the school environment, curriculum, and the national exams.

Keywords: English language teachers, CALL, Computer assisted language learning, Technology integration, Factors affecting technology integration

ÖZ

BİLGİSAYAR DESTEKLİ DİL ÖĞRETİMİ EĞİTİMİNİN İNGİLİZCE ÖĞRETMENLERİNİN TEKNOLOJİYİ DİL EĞİTİMİNDE KULLANIMI ÜZERİNDEKİ ETKİSİ

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Bu çalışma, İngilizce öğretmenlerinin almış oldukları bilgisayar destekli dil eğitiminin (BDDE) sınıf içi uygulamaları üzerinde nasıl bir etkisi olduğunu ve hangi faktörlerin bu uygulamayı etkilediğini incelemektedir. Çalışmaya, 2008-2009 eğitim ve öğretim yılında, Orta Doğu Teknik Üniversitesinde Yabancı Diller Eğitimi Bölümünde eğitim gören ve FLE 318 kodlu Bilgisayar Destekli Dil Eğitimi (BDDE) seçmeli dersini alan 35 İngilizce öğretmen adayı ve bu adaylardan daha sonra çeşitli özel ve devlet okullarında öğretmenlik mesleğine başlayan 25 İngilizce öğretmeni katılmıştır. Çalışmada nitel ve nicel araştırma yöntemlerinden faydalanılmıştır. Katılımcılar tarafından yapılan eğitim sırasında ve sonrasında tutulan kayıtlar, okul deneyimi derslerinde hazırlamış oldukları ders planları, katılımcıların verilen anketler ve katılımcılarla sınıf içi uygulamalarla ilgili yapılan görüşmeler almış oldukları eğitimin, çeşitli bilgisayar destekli dil materyallerini ve araçlarını sınıf içinde uygulamalarına

yardımcı olduğunu göstermiştir. Ayrıca, yapılan analizler, çalışmış oldukları okuldaki imkânların, izlencelerin ve ülke çapında uygulanan sınavların, bilgisayar destekli dil materyallerinin ve araçlarının sınıf içi uygulamalarını etkileyen en önemli faktörler arasında yer aldığını göstermiştir.

Anahtar Kelimeler: İngilizce Öğretmenleri, BDDE, Bilgisayar destekli dil eğitimi, Teknoloji uygulamaları, Teknoloji uygulamasını etkileyen etmenler

**to the Founder of the Turkish Republic,
Mustafa Kemal Atatürk and his friends**

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TABLE OF CONTENTS

ABSTRACT.....	iv
ÖZ	vi
DEDICATION.....	viii
ACKNOWLEDGEMENTS.....	ix
TABLE OF CONTENTS	x
LIST OF TABLES	xiii
LIST OF FIGURES.....	xiv
LIST OF ABBREVIATIONS.....	xv
CHAPTER	
INTRODUCTION.....	1
1.0. Presentation	1
1.1. Background to the study.....	1
1.3. Research Questions.....	4
1.4. Significance of the study.....	5
LITERATURE REVIEW	8
2.1. CALL: A historical background.....	8
2.1.1. Behavioristic CALL	10
2.1.2. Communicative CALL	12
2.1.3. Integrative CALL	13
2.2. Language teaching and CALL.....	15
2.3. Advantages and disadvantages of introducing CALL-based materials in the classroom.....	16
2.4. The infusion of technology to classroom.....	20
2.4.1. The studies on technology integration in Turkey.....	24
2.4.2. Factors influencing teachers' technology use	31
2.4.3. The roles of the teacher during the lesson with authored multimedia materials.....	34
2.4.4. Making technology integration happen	37
2.4.5. Technology standards in Turkey	40

METHOD	44
3.0 Presentation	44
3.1. Methodology.....	44
3.1.1. Research method	44
3.1.2. Participants.....	47
3.1.3. Research questions	49
3.1.4. Data collection instruments and procedures	49
3.2. Data analysis.....	53
3.5.1. The questionnaires.....	53
3.5.2. Lesson plans, critical reviews, journals and the interviews.....	54
3.5.3. CALL course.....	55
DATA ANALYSIS AND RESULTS	58
4.0 Presentation	58
4.1. The participants’ perceived computer knowledge and technology integration before the training	59
4.2. CALL-based tools used in the lesson plans created for micro and macro teaching during the training.....	63
4.3. The emerging tools in the participants’ critical reviews	66
4.4. The journals written during the study on several aspects of training	68
4.6. The participants’ perceived computer knowledge and technology integration knowledge after the training	72
4.7. The environment in the schools where in-service teachers of English work	75
4.8. The journals and the interviews on how the participants infused technology and the emerging problems during their in-service teaching	77
4.8.1. The journals and the interviews on how the participants infused technology	78
4.8.2. Factors affecting technology integration	86
DISCUSSION & CONCLUSION	92
5.0 Presentation	92
5.1 Summary of the Study.....	92
5.2. Results and Discussion.....	95
5.3. Conclusion.....	99

5.4. Pedagogical implications for teacher training on CALL-based materials	104
5.5. Suggestions for Further research	106
REFERENCES	108
APPENDICES	125
APPENDIX A: Consent to participate in research.....	126
APPENDIX B: The survey on the participants' perceived computer knowledge	128
APPENDIX C: The school atmosphere (Online survey).....	130
APPENDIX D: FLE 318 Course outline	131
APPENDIX F: Critical review of technology.....	139
APPENDIX E: Critical reviews	141
APPENDIX G: Lesson plans	154
APPENDIX H: Curriculum vitae	156
APPENDIX I: Turkish summary.....	161
APPENDIX J: Tez fotokopisi izin formu	193

LIST OF TABLES

TABLES

Table 1. Native and immigrant distinction	2
Table 2. The development of CALL The development of call	9
Table 3. CALL for SLA based on SLA Theories.....	10
Table 4. Ms. Sylvia’s instructional strategies matched with language macro skill and technology	40
Table 5. Turkish teachers of English and Technology competency.....	41
Table 6. Features of Quantitative and Qualitative Research.....	45
Table 7. The profile of the participants before the training	48
Table 8. The profile of the participants after the training	48
Table 10. Parts of topics in CALL Course in 2006-2007	57
Table 11. Topics covered in the CALL course in 2009-2010.....	57
Table 12. The participants’ perceived computer and technology integration knowledge.....	61
Table 13. Sample description of how pre-service teacher candidates applied CALL-based tools as they created lesson plans for micro and macro teaching.....	64
Table 14. The CALL-based tools in the critical reviews.....	67
Table 15. One-way ANOVA results of the Perceived computer knowledge	74
Table 16. The environment in the in-service teachers’ schools	76
Table 17. Sample description of how in-service teacher candidates applied CALL-based tools into their English language activities.....	80

LIST OF FIGURES

FIGURES

Figure 1. Mishra & Koehler’s TPACK Model. Reprinted from http://www.tpack.org/	38
Figure 2. Visual representation of the design of the study	50
Figure 3. CALL-based tools in the micro and macro lesson plans	65
Figure 4. CALL-based materials reviewed in critical reviews	67
Figure 5. The participants’ views on several aspects of the training	69
Figure 6. CALL-based tools used by the in-service language teachers	79
Figure 7. Factors affecting technology integration as perceived by the in-service teachers of English.....	87

LIST OF ABBREVIATIONS

ABBREVIATIONS

CALL	Computer Assisted Language Learning
ICT	Information and Communication Technology
ELT	English Language Teaching
EFL	English as a Foreign Language
ESL	English as a Second Language

CHAPTER I

INTRODUCTION

1.0. Presentation

This study was conducted to examine the impact of CALL training on in-service language teachers' use of CALL-based activities by finding out how they transfer their knowledge of technology gained in the training into their own classroom, what factors influence their use of CALL in their classroom and how they can be assisted in continuing learning about new technologies and applying new activities. This chapter will briefly review language teachers' technology use, the problems which have led to the proposed study, the aims and the significance of the investigation.

1.1. Background to the study

In recent years, technology has been used in all parts of our lives from communication among friends to shopping, from education to media tools. By means of computers and inevitably the Internet, it is getting easier for people to communicate throughout the world. Furthermore, the development of technology has not stopped and no doubt it will go on developing and this makes "the world flattened". As Friedman (2005) claimed "The world is being leveled"; and this leveling process is continuing on every minute. No matter where someone is, in Turkey, in India, in Australia, or elsewhere, s/he has the opportunity to contact with people around the world without time constraints;

and this communication occurs through the computers and the Internet. As for the field of education, it is becoming more important to study the integration of technology. However, the other question is whether teachers are ready for integrating technology into their classrooms. In other words, it is questioned whether teachers who are “digital immigrants” are ready to teach the generation in the 21st century who are “digital natives”. These two terms – digital immigrants and digital natives – were coined by Prensky (2001, p. 1). He stated that “Our students have changed radically. Today’s students are no longer the pupils our educational system was designed to teach”, considering how technology is used by students and teachers. In addition to this harsh distinction, Bayne and Ross (2011) provide the following Table (1) showing the huge distinctions between a native and an immigrant (p. 161).

Table 1. Native and immigrant distinction

native	immigrant
Student	teacher
fast	slow
young	old
future	past, or ‘legacy’
image	text
playful	serious
looking forward	looking backward
digital	analogue
action	knowledge
constant connection	isolation

Table reprinted from Bayne and Ross (2011, p. 161).

Technology also may affect the way we teach, the way we learn and affect teachers' choice of teaching and learning styles as put forward by Watson (2010, p. 15):

Teachers may face a conflict of teaching and learning styles. Older teachers generally teach face to face and proceed in a logical or step-by-step basis. In contrast, younger students tend to jump around from one idea or thought to another and expect sensory-laden environments as a matter of course. They also want instant results and frequent rewards, whereas many teachers regard learning as slower and serious and consider that students should just keep quiet and listen.

However, regarding the notion that the students are far more advanced in terms of using technology, one of the key findings from this study conducted on students' technology use shows that advanced technology user students are in a minority, less than 15% participants (2588 students). Of the participants, 45% were basic users, who used only standard web-based applications and mobile phones on a relatively frequent basis (Kennedy, Judd, Dalgarnot, and Waycott, 2010). The finding that advanced technology user students are in a minority is also supported by Bennett, Maton, and Kervin (2008). While it is a fact that students of our century can better adapt technology into their daily life and communication with their peers using social networking sites such as Facebook, this does not mean that they can infuse technology into their studies or learning practices (Legutke, Müller-Hartmann, & Ditfurth, 2007; Von der Heiden, Fleischer, Richert, & Jeschke, 2011).

Considering the technological developments which happen at a breath-taking rate and the tools available which are frequently used by students, though not often for educational purposes, it has become necessary that teachers change and be trained in terms of technology integration. Moreover, they should be equipped with the required tools to meet the current needs of our schools and students who are looking forward to coping with various educational contexts. Yet, teacher training programs often ignore training in the use of information and communications technology and teachers are often far less knowledgeable and skilled than their own students when it comes to using current technology in life. As happened in the previous years, teachers will have to update their skills, teaching styles and learn to integrate new tools into what they teach to improve learning and teaching. As Pilus (1995) puts forwards,

Teachers have to realize that computers are not used in the classes just because they are sophisticated or state of the art. Computers cannot perform magical tasks and they are not substituting for the teachers. Computers have to be treated like other teaching aids thus; appropriate training in this aspect is crucial (p. 10).

an appropriate Computer Assisted Language Learning (CALL) training should be provided to pre-service and in-service teachers.

1.3. Research Questions

This study aims to answer the following questions as regards the impact of CALL training on in-service language teachers' use of CALL-based activities in their classrooms. The main questions of this study are stated as follows:

1. How does in-service EFL teachers' gained knowledge in their pre-service CALL training impact their teaching?
2. What are the factors that may affect EFL teachers' use of CALL tools in their teaching contexts?

1.4. Significance of the study

As stated by Lee (2000) and Warschauer and Healey (1998), CALL technologies can support learning in a variety of ways, provide feedback, enable pair and group work, promote exploratory and global learning, enhance student achievement, provide access to authentic materials, facilitate greater interaction, individualize instruction, create opportunities to benefit from a variety of sources rather than limiting oneself to a single source, and motivate learners. Furthermore, technology can provide us with the necessary tools which enable us to benefit from the opportunities to make language learning more enjoyable, productive and effective. However, in order to achieve this, we need to have competent teachers in using technology as the anecdote provided by an Egyptian university lecturer and cited by Warschauer (2002, p. 472) “we have the hardware, we have the software, but we lack the humanware” indicates, it is imperative that pre- and in-service language teachers learn about computer tools which will support them in their teaching practices. Therefore, pre- and in-service language teachers should be equipped with skills and strategies in integrating CALL technologies into their classrooms.

Seferoğlu (2007), Seferoğlu, Akbıyık, and Bulut (2008), and Karakaya (2010) state that teacher candidates did not feel competent in using computers for teaching, in other words, how to infuse technology to their teaching. Moreover, Göktaş, Yıldırım and Yıldırım (2008) suggest that ICT courses can help to improve teachers' ICT competency; however, they add that in addition to the ICT courses offered to the students in the faculties of education, another ICT related course should be included in the curriculum which will integrate their subject matter such as a foreign language. To the best knowledge of the author, there is no currently conducted on introducing an ICT related course that integrates teacher candidates' subject matter, which is English language teaching in the current study. Therefore, the current study concerned with the relationship of the integration of ICT into English language teaching and their use of computer technology in the classroom will fill this gap in the literature. Moreover, it will also help us find out the effect of contextual characteristics on the use of CALL-based materials, especially the school climate.

1.5. Definition of the important terms and phrases

Computer-assisted language learning (CALL): The most fitting definition of Computer Assisted Language Learning (CALL) seems to be the one coined by Levy, who sees CALL as the search for and study of applications of the computer in language teaching and learning (1997). Its appeal to academics and practitioners lies in its all-encompassing nature: its wide application to a multitude of ways CALL can and is being taught and in a variety of learning

context. CALL is sometimes called after Computer-assisted Instruction (CAI), Computer-aided instruction (CAI), Computer-based instruction (CBI) or Technology Enhanced Language Learning (TELL).

CALL-based activities: “are used to encompass tasks, software, courseware, Web sites, online courses, programs, packages, and learning environments.” (Levy & Stockwell, 2006, p.3). These activities can be done through computers and via the Internet and computers can be seen as “.... medium [which] emphasizes the communicative agency of language learners, who express themselves and interact with other people ‘through’ the computer. Learners can use computers to engage in a wide variety of communicative practices – sometimes in instructional contexts, but often not (Kern, 2011, p. 201).

Infusing technology: Technology infusion is the process of benefiting from the tools and materials accessible through computers and the Internet that are available to teachers and learners to supplement in-class activities, encourage learners and improve learning activities.

CHAPTER II

LITERATURE REVIEW

2.0. Presentation

This chapter begins with a brief history of use of computers in language education. Following this, interaction between coursework and the pre-and in-service teachers' use of CALL tools are discussed. Later, the chapter continues with the discussion on factors influencing teachers' technology use in their teaching contexts.

2.1. CALL: A historical background

The use of computer in language instruction is not a new phenomenon. It was firstly introduced in the early 1960s in prestigious institutions of higher education; however, the actual beginning of CALL dates back to 1970s, when it started to be commonly applied in European schools (Davies, 2011). The history of CALL has been the topic of interest to many scholars and each of them suggests diverse timelines. Hardisty & Windeatt (1989), for example, put forward that the invention of gramophone in 1882 by Alexander Braham Bell was the starting point for CALL. Other researchers retrace the chronology from early 1960s when PLATO (Programmed Logic for Automatic Teaching Operations) project was developed (Delcloque, n.d.).

The historical evolution of CALL specified by Warschauer (1996) and Warschauer and Meskill (2000) is generally accepted and very frequently quoted in analyses and research. Warschauer (2004, p. 22) categorized the development of computer assisted language learning into three distinct phases as *Behavioristic CALL*, *Communicative CALL* and *Integrative CALL* (Table 2), together with the Table 3 focusing on SLA theories and CALL as CALL is to be discussed in relation to how it can enhance SLA (Chun, 2011a, p. 665).

Table 2. The development of CALL The development of call

<i>Stage</i>	1970s-1980s: Structural CALL	1980s-1990s: Communicative CALL	21 st Century: Integrative CALL
<i>Technology</i>	Mainframe	PCs	Multimedia and Internet
<i>English-Teaching Paradigm</i>	Grammar-Translation & Audio-Lingual	Communicative Language Teaching	Content-based, ESP/EAP
<i>View of language</i>	Structural (a formal structural system)	Cognitive (a mentally-constructed system)	Socio-cognitive (developed in social interaction)
<i>Principal Use of Computers</i>	Drill and Practice	Communicative Exercises	Authentic Discourse
<i>Principal Objective</i>	Accuracy	and fluency	and agency

Table reprinted from Warschauer (2004, p. 22)

Table 3. CALL for SLA based on SLA Theories

Theory	Focus	Technology
Psycholinguistic SLA- individual	Vocabulary, grammar, reading, collocations	Multimedia, iCALL, CMC, Corpus linguistics
Interactionist SLA- individual + interlocutor	Communication: negotiation of meaning	CMC 1.0 (email, forums, chat) CMC 2.0 (blogs, wikis)
Sociocultural SLA- individual+ <i>society/culture</i>	Mediation of understanding and action through cultural tools Intercultural competence	CMC 1.0 (audio-and video-conferencing), 2.0 (podcasts, vodcasts, social learning sites, virtual worlds) Corpus linguistics
Ecological SLA- individual + environment	Audience, author agency, identity	CMC 1.0, 2.0, Hybrid/blended models

Table reprinted from Chun (2011a, p. 665)

As Warschauer (1996) claims, “the introduction of a new phase does not necessarily entail rejecting the programs and methods of a previous phase; rather the old is subsumed within the new”. Every type of language teaching uses its own tools and techniques to help learners (Warschauer & Meskill, 2000). The blackboard, together with the introduction of Grammar translation method, was started to be used in language classrooms and the first stage of CALL took place, though the Behavioristic stage emerged in the early 1950s. (Warschauer, 1996).

2.1.1. Behavioristic CALL

Behavioristic CALL was implemented in 1950s and introduced in 1960s and 1970s. During this phase the programs focused mainly on repetitive drills and the role of the computer was to serve instructional materials to the student. Jones (2001, p. 361) refers to this as “unimpressive phase of drill-and-practice”. Hence, language learning was viewed as a linear process consisting of the following stages: the presentation and explanation of material to be learned,

checking the comprehension by testing and positive reinforcement for correct responses (Kunzel, 1995). In Behavioristic CALL the computer served as a “mechanical tutor” which provided students with learning packages and gave an immediate feedback on their performance. Furthermore, it was used principally for “drill-and-practice”, which in fact cannot be underestimated since repetitive drills are still applied in a language classroom. This mode of CALL pays tributes to the individualization allowing learners to proceed at their own preferable pace. The above-mentioned notions were applied in tutoring systems which were designed for mainframe computers at that time (Warschauer & Healey, 1998). Interestingly, the previous term for CALL, namely CALI (Computer-Assisted Language Instruction) went out of favor since it was related to “programmed learning that drew heavily on behaviorism” (Davies, 2011). In the 1970s and 80s, university language classes used the audio-lingual method with audio cassettes that would make learners perform the repetitious drills (Bax, 2003). The basic foundations of this kind of software were the assumptions that repeated exposure to the same material is essential for successful learning and, therefore, a computer is a perfect tool because it does not get bored, allows students to work individually at their own pace and provides them with immediate feedback. One of the most sophisticated systems developed within this phase was the PLATO system which used its own specialized hardware. PLATO included vocabulary drills, grammar explanations and translations tests (Warschauer, 1996). The general disparagement of behavioristic approaches in the early 1980s provided a fertile ground for a new stage. In 1980s and 1990s,

a new type of language teaching method emphasizing communicative language teaching came into use. In this method, interaction and meaningful activities were the key aims for learners to gain (Richards and Rodgers, 2002). With this method, new computer software was designed and used to provide learners with meaningful communication activities which might be used outside the classroom.

2.1.2. Communicative CALL

Communicative CALL is referred to the cognitive view of language which recognized language learning as “a process of discovery, expression, and development” (Warschauer, 1998). In this paradigm Warschauer distinguishes three principal uses and “models” of computer. Firstly, computer as a tutor, “knower-of-the-right-answer” (Warschauer, 1996), is applied to practice the four skills, however, the drill-format is rejected and more emphasis is placed on learner’s choice, creativity and interaction. Secondly, computer as a stimulus provides learning materials which stimulate mainly “students’ discussion, writing, or critical thinking” (Warschauer, 1996). Thirdly, computer as a tool promotes learner’s comprehension of language and ability to use it. Warschauer (1996) points out that the communicative exercises approved in the second phase of CALL draw more attention to fluency than accuracy; however, the latter is not excluded. According to Bax (2002), the term ‘communicative CALL’ seems misused since this kind of software had little in common with the communication process which was the basic foundation of Communicative

Language Teaching. *Communicative CALL* focuses more on using forms and teaching grammar implicitly, thereby allowing students to generate original utterances. Communicative CALL was accompanied by the advent of personal computers, which also strengthened the aspect of individualism and creativity in language learning. The emergence of the Communicative Approach and technological advances entailed the introduction of a new term for CALL, namely Technology Enhanced Language Learning (TELL) (Davies, 2011). Communicative CALL had been considered as a satisfactory approach until 1980s, when educators started to look for integrative manner in language teaching. It resulted in the emergence of Integrative CALL, which is currently practiced. At the end of the 1980s communicative CALL started to be criticized by linguists for concentrating on the peripheral instead of the core elements of the language teaching process (Kenning & Kenning, 1990, as cited in Warschauer, 1996). These disputes led to the development of integrative CALL, which is based on the two important technological developments: multimedia and the Internet.

2.1.3. Integrative CALL

The third phase revolves around the development of two technological media: multimedia (represented by CD-ROM) and the Internet. Integrative CALL corresponds to a socio-cognitive view of language, which assumes that language is best developed in authentic social interaction. The main objective of this paradigm is to create an authentic learning environment by integrating the four

skills and enabling authentic discourse. The development of multimedia computers enabled integrating reading, writing, speaking and listening into a single activity. Additionally, the spread of the World Wide Web (WWW) permitted synchronous and asynchronous communication between learner and native speakers, other students or teachers (Warschauer, 1998). In *Integrative CALL* computers and the Internet are integrated to expose learners to language use in authentic environments within the multimedia category CD-ROMs and hypermedia were developed, which provided a more authentic learning environment by integrating e.g. listening and viewing. Later, how technology should be integrated into curriculum became the concern for the researchers and teachers paying attention to advantages and disadvantages of this new system (Warschauer & Meskill, 2000). In the 2000s, computer software, the Internet and multimedia applications appropriate to the language classroom were integrated, thereby exposing the students to “a common lab experience” (Stroud, 1998).

This brief history of CALL presents how the technology and software developed over several dozen years and how many interesting possibilities computers provide. Nevertheless, the medium itself cannot ensure the effectiveness of language learning. In spite of technological potential, computer programs are not intelligent enough. If Artificial Intelligence (AI) comes into language instruction, we may come across Intelligent CALL as the next phase. As Topol (2003)

confirms, computer is one of the most controversial devices in the didactic field since there was no such universal and powerful medium so far.

2.2. Language teaching and CALL

CALL has started contributing into language instruction neither as a pure methodology nor as a “universal panacea but simply as another medium (...) for promoting learning” (Hardisty & Windeatt, 1989, p. 3). Computer seems to be a powerful teaching aid in language teaching and an integral part of instructional system which does not exclude a teacher and other non-technological elements. Therefore, the approach is referred to as Computer-Assisted Language Learning (CALL) or Technology Enhanced Language Learning -TELL (Clark, 1988).

Although computers are only supporting tools in language teaching and learning, they also play a significant role in the instructional process. Computer programs designed for educational purposes may fulfill following general functions: the transmission of knowledge, the practice of already taught/learnt material, the monitoring of the learning process, stimulating interests in a particular field, the individualization of teaching and learning, and the student’ acquaintance with a computer.

The above-mentioned functions prove that the role of computers in language teaching and learning has altered substantially in the last decade. Previously, foreign language teachers used computers solely to prepare worksheets, tests or

provide additional exercises (Hardisty & Windeatt, 1989). Recently, though, the advent and accessibility of computers, the expansion of their applications have made educators reappraise them and consider seriously their active presence in a language course. Teachers have realized that advancements in computer technology provide ground for innovative, novel, creative language instruction, thereby giving students exposure to audio, visual and textual information about the foreign language (Higgins, 1993).

But at the same time language teachers need to think carefully about taking advantage of technological developments and then integrating CALL materials into curriculum in a sound way or creating a special CALL methodology.

2.3. Advantages and disadvantages of introducing CALL-based materials in the classroom

Teaching the foreign language with CALL offers numerous advantages which place them way ahead of some traditional teaching methods. Firstly, such learning materials enhance students' motivation, contributing to the development of particular language skills and leading to help motivate learners to reach the overall higher language proficiency level. Secondly, computers allow students the opportunity to work at their own pace and independently from other students, as well as do the exploratory work and see the immediate results of their decisions and their answers to the questions if there are any (Hardisty & Windeatt, 1989).

Furthermore, among the main advantages are the possibility of student-computer interaction, with the tool presenting tasks, giving feedback on the results of the student's work, or asking questions and reacting accordingly to the student's choices. On the other hand, numerous limitations and disadvantages of multimedia CALL can be enumerated. First of all, considerable effort should be devoted to adequate teacher training. As admitted by Jones (2001), most teachers feel not comfortable while using high technology and experience a sense of inferiority to their students who have grown up surrounded by computers, as named "digital immigrants" by Prensky (2001). Moreover, teachers are afraid of the lack of time to prepare suitable activities. According to Grace (1998), the students with lower tolerance of ambiguity do not benefit from using CALL software which does not provide various kinds of word context and even the options of translation into L1.

CALL can offer numerous possibilities and changes in language learning and teaching. It enhances students' autonomy and motivation and gives them the opportunity to work in a multisensory environment, which is extremely important for Young Learners. Therefore, as shown by Whitworth and Berson (2003), using the Internet to access information was the most common use of technology and students like using Web 2.0 tools in classroom (Girgin, 2011). Studying through CALL and the materials based on CALL allows learners to work at their own pace and enhance the level of their privacy. Therefore, learners are not embarrassed when making mistakes and being corrected by the computer.

Topol (2003) highlights also the importance of interaction between a computer and a learner in the didactic process. According to Topol (2003), the learner is not only the passive receiver of information, but s/he takes part in a kind of dialogue with media. A student gets immediate feedback and is directed to particular parts of material or tasks, which is very helpful in enhancing his autonomy. CALL also encompass several media such as video, sound, animation, text, graphics which is extremely motivating in the learning process, especially for Young Learners who enjoy working with it. It deepens their interests, stimulates creativity and facilitates memorization. Jackson (2003) remarks also that all the components of multimedia are integrated in one screen, which helps to keep concentration for longer since the learners do not have to move their eyes between various elements on the monitor and the distance between students and the screen is rather small.

Considering the limitations, the foremost thing that should be mentioned relates to teacher's and learners' IT knowledge. Many teachers are afraid of innovations and new technology because of the lack of knowledge in this field. As a consequence, they do not realize and appreciate possibilities that computers provide. As Fernandez Carballo-Calero (2001) notices, teacher's appropriate attitude is an indispensable component of teaching with the help of CALL. The same concerns students and all of them should possess technological skills in order to have an equal start with multimedia. And one more constraint is connected with economic aspect; most schools do not have enough computers in

classrooms, which causes that several students would be forced to work on one computer and in the end none of them would benefit from it. The overreliance on computers is also a vital problem concerning teachers implementing authored CALL materials in the classroom. As claimed by Alatis (1986, p. 8), “The best of programs cannot compensate for the skilled teacher and the dynamics of human interaction in a classroom setting”, implying that the lesson cannot be restricted to completion of computer-based exercises but should also involve discussion and feedback.

As far as students’ attitudes are concerned, some of them may not be as proficient as their classmates in using computers and that may lead to the feeling of inferiority or humiliation which is one of the most significant problems concerning adolescent learners. Moreover, in case of the accuracy-focused CALL activities students may assume that there is a simple correspondence between L1 and L2 items, which can lead to the limited understanding of language encountered in other contexts (Taylor, 2006). Furthermore, it appears to be impossible for the teacher to always predict all the variants of correct answers, which may lead to unnecessary frustration or misleading of students completing the task. Also, there is a serious possibility for students’ cheating while completing exercises aimed at improving the skill of inferring word meanings. Students are usually proficient computer users and therefore there would be no difficulty for them to check the unknown word meaning immediately using the Internet bilingual dictionary. The last limitation is related

to the financial problems. Numerous schools do not have enough financial resources to equip language laboratories in computers with the appropriate software. When there are not enough computers to be available in each classroom and it is often inconvenient to change the room because other teachers may need it as well, moreover wasting time moving to the computer lab for a short activity seems to make little sense.

These advantages together with the disadvantages have led to more emphasis on teaching teachers the ways of integration ICT in their teaching (Göktaş, Yıldırım, & Yıldırım, 2009; Kılıçkaya, 2009). They state that technology can be used to enrich and enhance social interactive learning experiences especially for second language learners who are in the early-childhood education, taking the Piaget's four levels of cognitive development (Zeigler & Fecuh, 2012). Technology can be used as a mediating tool for cross-curricular activities (Savage, 2011).

2.4. The infusion of technology to classroom

As Hubbard (2009) says,

As computers have come more a part of our everyday lives- and permeated other areas of education- the question is no longer whether to use computers but how. CALL researchers, developers and practitioners have a critical role in helping the overall field of second language learning come to grips with this domain (p. 1).

each day we are getting involved with technology and it is getting more present in the daily life. Technology have imbued a great many students' lives especially in developing and developed countries witch technology such as mobile phones,

interactive videos and games (Moyle, Wijngaards, & Owen, 2012). Although there are differences in the access and the intensity of technology use (Sanchez, Salinas, Contreras, & Meyer, 2011) and their use is generally not linked to educational purposes, new generations of students are more comfortable with technology though using it in their life for a variety of purposes such as communicating with friends, gaming and listening to music. Given that students access to the Internet easily and use it for several purposes, teachers also must be open to join their students to benefit from their being comfortable with technology to infuse into daily activities in classrooms (Barsotti, & Martins, 2011; Gray, Andrews, & Schroeder, 2012) and to individualize learning processes more than that in a traditional classroom (Volman, 2005; Larsen-Freeman & Anderson, 2011).

The existing literature show that teachers are eager to integrate technology into their classrooms and benefit from CALL-based activities; however, what they did in their computer courses may not facilitate using CALL-based activities (Wentworth, 1996; Keirns, 1992; Hargrave & Huse, 2000). When the research on technology and the training of teachers are reviewed, it is seen that there are two approaches: One-course approach which focuses on the teaching of technology is found to be limited and too technical (Peters, 2006; Wong & Benson, 2006; Desjardins & Peters, 2007; Lambert, Gong, & Cuper, 2008) and the technology infusion throughout teacher education which focuses on exposing teachers to continuous technology. Desjardins and Peters (2007) examined

whether a single-course approach would be sufficient to train pre-service teachers for teaching with technology, focusing on how well prepared these teachers felt they were able to integrate technology in the language classroom. The study was done in a university in Montreal and the participants followed a 45-hour-long course during the last semester of their program. The findings showed that although the training helped them develop their technological competencies, it was not enough for them to feel confident to infuse technology in their future classes. In several studies (Peters, 2006; Wong & Benson, 2006; Lambert, Gong, & Cuper, 2008) found similar results, showing that a single course approach or short in-service CALL training are not sufficient, though it affects participants' attitudes towards technology positively. In contrast with these studies, Thiemann's (2008) findings of the study conducted with the 223 pre-service teachers in this longitudinal 5-year study showed that 85% of the pre-service teachers infused several technology tools into instructional practice with their K-12 students. Kressler's (2007) web-based survey of 108 graduates of TESOL master's degree programs show that although the teachers were confident about CALL overall, they did not feel the same way in creating and integrating CALL materials.

The study conducted by (Fisher, 2009) on the perceptions of 5 trainee teachers over the nine months of their postgraduate training course in England showed that the teachers were reluctant at the very beginning due to a lack of confidence;

however, when they are provided with good classroom practice, they adopted methodological approaches to their own teaching.

The need for technology education in the teacher education, professional development has been stressed out by several studies (Daniel, 2010). However, when the students are required to learn about technology throughout the program (Hegelheimer, 2006), it is not impossible to have technology-savvy graduates in English language teaching. Recognition of the importance of ICT curriculum integration has already occurred, and most teacher education programs have introduced courses in ICT for future teachers. Teaching about computer or teaching with computers to enhance teaching and learning through integration ICTS within the curriculum. In the study conducted by Kessler (2006), 240 participants in the TESOL master's program reported a perceived lack of formal CALL training. The findings revealed that the participants were not satisfied with the CALL training and they tried to look for other sources of information to prepare them. They also participated in formal training outside their classroom and university.

Chapelle (2006) adds that “second-language teachers today need to be able to choose, use, and in some cases, refuse technology for their students” (p. ix). Teachers also need to know how technology can constrain as well as enhance their students' language use and know when it is better not to use computers (Kern, 2011). As Egbert (2010) points out, teachers should also find out the

ways to work with technologically rich and poor environments, focusing on how to assess students' needs, interests and abilities. Whether and how the skills and knowledge that teachers “learn” during their education programs or professional development in CALL actually transfer to their teaching practice in real learning contexts requires utmost importance (Hong, 2010; Egbert, Huff & Lee, 2011). The important question is, then, how learning opportunities for teacher candidates and teachers can be made so that they learn how to infuse technology into their teaching. In other words, planning each and every detail of the training, as in each stage of life, is important (Sergeant, 2000; Mayo & Kajs, 2005; Toledo, 2005; Hockly, 2012).

2.4.1. The studies on technology integration in Turkey

Within the framework of re-designing teacher training programs in teacher training programs in faculties of education, two obligatory computer courses as general knowledge courses have been added to the curriculum of all teacher education programs (The Council of Higher Education, 1998), aiming at helping teacher candidates significantly benefit from these courses to gain basic skills and strategies to use technological tools in their own learning and teaching. Generally, the first course offered during the first year of the program is the basic computer course which aims to help teacher candidates gain the basic skills such as emailing and using word processing software. However, the second course entitled “Instructional Technology and Material Development”, generally offered during the second year of the programme”, goes beyond the basic skills to

provide a better understanding of the relationship of the technology, teaching and learning. According to the Council of Higher Education of the Republic of Turkey (1998, p. 8,) Instructional Technologies and Material Development course is

.... included in all teacher training programs. The goal of this course is to help teacher candidates gain the basic skills in computer use and know more about information technologies, Instructional Technologies and Material Development, one of the courses in the teacher training program, is like the extension of the basic computer course and includes the application of developing technologies into the teaching environment. With the help of these courses that promote the use of developing information technologies in schools and the development of various instructional materials, teacher candidates are intended to learn about such technologies as computers, the Internet, multi-media, television and video sets, and projectors and to use them in teaching. In this way, future teachers are expected to know more about technology and to do their job effectively.

However, all the departments, irrespective of their field of study, follow the same ICT courses. That is, there is no ICT course on the teacher candidates' subject matter.

Several studies investigated the teacher candidates' use of computer and their perception on the computer or ICT courses that they have attended (Top, 2003, 2007; Seferoğlu, 2007; Gülbahar, 2007; Seferoğlu, Akbıyık, & Buluk, 2008; Gülbahar, 2008; Yüksel & Kavanoz, 2010; Çoklar & Odabaşı, 2010; Karakaya, 2010).

Top (2003) examined the perceptions of 383 ELT students at Middle East Technical University on technology competence regarding National Technology Standards for Teachers (NETS•T) through a survey consisted of 44 Likert type, five point scale items. According to the findings of this study, it is pointed out that students need to be supported through training in order to help them increase their competencies considering NETS•T. In another study by Top (2007), secondary school English teachers' perceptions of technology, their integration of technology into classes and how they use technology for professional development were investigated. The participants included 17 teachers and 17 administrators. The findings of the study showed that teachers working at private schools considered themselves more knowledgeable in terms of technology integration. The findings also indicated that private schools provided their teachers with more technical resources.

In a study on how technology planning process was carried out in a private K-12 school, Gülbahar (2007) reported that based on the responses and interviews, teachers and administrative staff felt themselves competent in using ICT; however, they needed guidelines which would lead to successful integration, which can be done through providing necessary in-service training opportunities.

Seferoğlu (2007) studied 54 teacher candidates at a university, in Ankara, Turkey. Data collection was done through a survey questionnaire developed by the researcher. The results showed that knowing how to use computers does not

lead to the successful application into the classroom activities and as a conclusion, it is stated that courses on how computers can be integrated into teaching can be offered to make computers more effective. In a similar study conducted by Seferoğlu, Akbıyık, and Bulut (2008), focusing on exploring the self-reported perceptions of 51 teachers and 56 teacher candidates on the use of computers in learning and teaching, it is found out that teachers prefer to take in-service training courses to learn about computers, while teacher candidates learn about computers through trial-error and through getting help from friends. Findings also revealed that teachers and teacher candidates did feel insufficient in the use computers for teaching considering the use of computers in teaching and learning. As a solution to this problem, the introduction of courses on computer assisted instruction in the faculties of education was suggested.

In the study conducted by Gülbahar (2008), 140 graduate students enrolling in the Instructional technology and material preparation” course of non-thesis teacher preparation program showed positive attitudes towards the course. In line with Gülbahar’s study, Yüksel and Kavanoz (2010) studied 200 TEFL certificate programme students in a state university in İstanbul. They showed positive attitudes towards technology, which was attributed to the availability and accessibility to technological tools provided to them during their education. In another study, the study employed 2.566 senior teacher candidates from 7 different universities. In terms of NETS*T standards, teacher candidates reported

the highest level of self-efficacy for the factor of productivity and professional practice (Çoklar & Odabaşı, 2010).

Karakaya (2010), in his Master's thesis, studied 87 in-service teachers of English working at public schools in Turkey. The findings showed that although the participants had positive attitudes towards the use of computers in teaching English in their own context, as, they did not have any training on integration technology into classroom, they just used computers for their daily work such as creating worksheet and sending emails, showing that in order for teachers to efficiently infuse technology into their classroom, they need to be trained through technology related courses offered in their departments and during their professional life.

The studies reviewed here show that although introducing technology to teacher candidates and teachers through one course, according to their self-perceptions, helps them get some kind of a high level self-efficacy, it is of utmost importance to show how computers can be integrated into teaching, rather than teaching how to operate and use software.

2.4.1. CALL and specific language skills

Undoubtedly, the expansion of computer applications has contributed significantly to new possibilities in language instruction. Nowadays, computer-mediated communication is frequently utilized in the foreign language learning

context since it provides great opportunities for language students to practice language skills through tools such as blogs, wikis and virtual worlds (Abrams, 2006). The studies conducted on specific language skills such as vocabulary and grammar provide promising results, considering the learner outcomes and achievements (AbuSeileek, 2007; Naba'h, Hussain, Al-Omari, & Shdeifat, 2009; Kılıçkaya & Krajka, 2010a; Kussmaul, 2010; Kılıçkaya & Krajka, 2010b; AbuSeileek, 2011; Liou, H., & Lee, S., 2011; Chun, 2011b).

CALL is especially important for learning vocabulary in another language (Stockwell, 2011). The study conducted on the use of technology in vocabulary learning and teaching hypermedia annotation by Kılıçkaya and Krajka (2010a), including 80 language instructors, showed that language instructors were not aware of the opportunities that technology provides to them and wordlists and flashcards are still the widely used materials (Kılıçkaya & Krajka, 2010b). Regarding the use of hypermedia annotation, in which words are glossed through online, studies showed that vocabulary learning through online glossing provided better results (Kılıçkaya & Krajka, 2010b) and reading passages with hypermedia annotations significantly benefits passage comprehension and vocabulary for 78 undergraduate EFL learners (AbuSeileek, 2011). Regarding grammar, AbuSeileek found that the results from two experiments which used computer-based grammar and teacher-driven grammar instructional methods on the acquisition of verb tenses in an EFL context were both were effective in teaching verb tenses for Freshmen English majors in the English department,

King Saud University (AbuSeileek, 2007). However, Naba'h, Hussain, Al-Omari, and Shdeifat (2009) studied teaching passive voice with 212 secondary students in Jordan through CALL-based materials, which showed that students benefited from CALL-based materials in their learning Passive voice better than the traditional approaches. In line with the two studies, Vinther (2012) found out that the use of computer based materials in which cognitive skills were applied, rather than drills, had a positive effect on the knowledge of grammar. Writing as well as communication is also the other language skills for which technology provide several opportunities. Considered as web 2.0 technologies (Shank, 2008), these tools the read/write/watch/listen/share/download web, in which people create content easily with tools like blogs and wikis. Blog, short for weblog, is a tool intended for people who want to create an online journal, but do not possess any previous technical knowledge (Johnson, 2004). Everyone can create and maintain a blog easily, update it anytime they want with their own words, ideas, and reflections through simple online interface (Campbell, 2003). Blogs were not originally intended for the teaching purpose. Nevertheless, their use in the EFL and ESL classes has increased lately as they “have immense potential as an extremely valuable tool for the teaching of second language writing” (Johnson, 2004). Wiki offers instructors an opportunity to provide students with new type of web resource in which both the teacher and the students play as contributors and editors. Bruns and Humphreys (2005) state that wikis “as non-linear, evolving, complex and networked texts with multiple authors, they can provide a great opportunity for student collaboration,

coproduction of texts, argument, and interaction”. Conversational technologies and constructivist learning tools such as e-mail, instant messaging, blogs, wikis, and podcasts, which emphasize student interacting, collaboration. They are more suitable for student communications (Hsu, 2009; Richardson, 2009; Abraham & Willians, 2009). These news kinds of interaction such as blogs and wikis can provide good materials for the study of language in use (Myers, 2010). Liou and Lee (2011) and Kussmaul (2010) found out that the participants practicing writing collaboratively and individually on wikis have offered good opportunities to learn from each other. Chats enable real-time communication and highly motivate students, providing verbal exchange with other users of English and activating their language (LeLoup & Ponterio, 2001). Tools fostering online communication such as Skype have paved the way for learners to interact with each other easily (Chun, 2011b). However, the use of technologies, as stated by many teachers and students, can be affected by several factors such as lack of time and proper facilities and the courses not preparing teacher for the realities of their classrooms, which will be discussed in the next section.

2.4.2. Factors influencing teachers’ technology use

A variety of factors have been found to affect teachers’ use of technology in their teaching. These include *time pressure* (Lam, 2000; Smerdon et al., 2000); *lack of resources and materials*, *technical problems* (Gillespie, 2006; Smerdon et al., 2000; Egbert, Paulus, & Namamichi, 2002; Bingimlas, 2009; Atal & Usluel,

2011), *inflexible standards and curricula* (Langone et al., 1998). Levy (1997) also suggests that the rate of technological change creates a barrier to technology use. Brown (1997) listed factors such as computer equipment (not always available or in working order), screen capacity (reading passages), students' familiarity and negative attitudes towards computers and computer anxiety in explaining why teachers use or do not use technology. The ICT-related reform in China focusing on improving English learning through the diffusion of ICT into curriculum faced similar problems. However, lack of sufficient investment in financial and human terms slowed down the adoption (Hu & McGrath, 2011). Similarly, Yıldız and Seferoğlu (2011) conducted a study on the digital gap among the primary school students and their access to computers and to the Internet in Turkey. The sample consisted of students in the 7 and 8 grades in 28 cities in Turkey. One of most the interesting and striking finding is that 35% of these students do have access neither to a computer nor the Internet. Teachers' integration of CALL was influenced by factors such as access to the equipment, support, curriculum and the pressure students for national entrance exams (Lin, Wang, & Lin, 2012). As a summary, as stated by Levin and Wadmany (2008, p. 235), teachers' lack of technology integration lies in the "incompatibility between the goals of education and interactions between teachers, students, educational and informational resources, and curricular goals and materials".

Bax (2003) discussed the implementation of CALL in different schools and by different teachers. He analyzed two case studies involving different university teachers and concluded that teachers should be trained and provided with pedagogical support, leading to the fact that teachers and training them play an important role in technology integration. Implementation of CALL requires close attention, critically selected software, teachers' and learners' positive attitudes. Many teachers can think that the infusion of technology into classroom will have a role of relieving some of the burden on their shoulders such as testing and drill, so that classroom time can be used for communication (Blake, 2008).

Benefiting from CALL successfully requires a lot of time, money, training and commitment. That teachers can benefit from ICT in the classroom highly depends upon their training, teaching preferences, subject expertise and confidence in using the technology (Latchem & Jung, 2010; Kerry & Wilding, 2004). A trainee's ability to apply the ICT skills effectively in their teaching depends on the size of the school, available resources, and experiences in teaching practice. These have a substantial influence on a trainee's confidence and competence in using ICT in their teaching (Gillespia, 2006). To deal with all these problems, policies play a crucial role in the adaptation process of the electronic technologies (Guri-Rosenblit, 2011). Modeling technology use by teacher educators, formal training for teachers, access and exposure to technology, hands-on experience throughout the teacher preparation program (Velazquez-Torres, 2006), constant support and training given to teacher

candidates and teachers in order to consider themselves able for integrating it into their instructional practice (Demetriadis et al., 2003), active involvement of the all people that are in the department (Berger & Thomas, 2011) seem to be possible suggestions for the problems discussed above.

2.4.3. The roles of the teacher during the lesson with authored multimedia materials

Many teachers are afraid of integrating CALL into the curriculum as they do not know their roles and duties in CALL classrooms. They also fear that new technology can diminish their roles and weaken their authority; most of them do not realize that roles of the teacher in the CALL environment are not reduced, they are simply different. CALL in the classroom should be treated as an additional teaching aid, not as replacement for something. As Alatis (1986, p.8) affirms “the computer [...] is an instructional tool which helps teachers to transmit information to students with greater efficiency.” The responsibility of the teacher who uses authoring tools in their work is not only to devise the exercises, but also to control their students’ performance during the lesson. In other words, the teacher’s roles very prominent in the CALL environment are facilitator, organizer and counselor. First of all, the teacher’s duty is to familiarize students with new software, make sure that they know how to operate computers, and as Jones (2001) adds, teachers should choose appropriate level and select tasks adjusted to learners’ needs and abilities. Although the teacher is not the only source of knowledge in CALL classrooms, he or she should assist

learners in doing some exercises and use the feedback provided by the computer in the future work with students. Therefore, the teacher has to perform numerous roles which are of enormous importance to the success of this teaching method. As noticed by Hardisty and Windeatt (1989), computers will not teach a lesson and it is the teacher who compensates for software deficiencies. The teacher's responsibility in the classroom is to motivate students to be less dependent on the teacher's help and simultaneously, take the student's individual problems and feelings into consideration. The first one is a facilitator who assists the students' efforts to establish successful communication and provides them with the constructive feedback. As Bangs (2008) notices, authoring programs offer the possibility to create user-specific feedback, even to the extent of an individual, for example directing his/her attention to the issues worked on during the preceding class. Some of the aforementioned functions are performed by computer, but the teacher's help through the explanation of language errors or relieving frustration occurring during the computer work is indispensable. Moreover, the teacher is a participant, who prepares authored materials, monitors the students' involvement in the lesson and identifies their intentions. What is more, the teacher is also considered a researcher and learner, who assesses their own teaching methods, develops them and extends their knowledge, for example while reading specialist literature. The next role is a needs analyst, who collects information about the students' needs, skills and knowledge and interprets them for the appropriate lesson construction. As a counselor the teacher solves the students' problems and encourages independent work. The last role performed

by the teacher is a manager, who maintains discipline and supervises the completion of the tasks by students. The roles of the teacher in the CALL classroom are also connected with matching the computer-based activities with the class syllabus. It is the teacher's responsibility to relate the authored exercises to the syllabus stage, while simultaneously matching them with the specific learners' needs, particularly by helping them select appropriate order of tasks or organizing pairs for each computer station for greater communicative value (Jones, 2001). It is worth noticing that at any level of proficiency and in any culture some learners are always more teacher-dependent than others (Jones, 2001).

Furthermore, the teacher may also engage more computer-literate students in preparing authored exercises for their classmates. As far as vocabulary exercises are concerned, the teacher can guide students to choose a given semantic field, discuss the choice of particular language items with them and offer help with the dictionary use.

As mentioned by Daud (1992) students may regard computers as a substitute for the teacher. Therefore, when some technical or linguistic problems occur they often prefer to consult their classmates rather than the teacher. Moreover, adjusting the pace of the lesson to the students' individual needs may prove an obstacle in organizing class work because the students who work faster can have difficulties with taking advantage of the additional time. That is why the

importance of the teacher establishing control over the course of a lesson and planning each stage carefully should not be underestimated.

According to Topol (2003), the teacher adheres to the different resources during the teaching process and the computer should be treated as just another kind of resource, which supplements and reinforces the information conveyed by the teacher. Thus the computer will not replace the teacher but should be regarded as an equal instructor by students, which provides them with a chance to practice all language skills (Dudeny & Hockly, 2007).

2.4.4. Making technology integration happen

Many teacher education programs have recognized the difficulties associated with developing teachers' abilities to use technology in the classroom and have proposed original, innovative approaches to use technology. In order to overcome these difficulties, we need to understand how learning technologies work and can help us to improve learning (Collins & Halversont, 2010). According to Bancheri (2006), the training of teachers should include 2 stages: training teachers in critically evaluating language teaching technologies and training to users of appropriate technologies as well as creating materials. In other words, teachers should be knowledgeable about how and why CALL materials should be introduced to their classrooms (Chapelle, 2008; Chapelle & Jamieson, 2008).

The pre-service teachers were introduced to technology through multiple paths (information delivery, modeling, authentic experiences, hands-on skill building activities, and reflections, (Ottenbreit-leftwich, Millard, & van Leusen, P. (2012). For meaningful technology integration to happen, a teacher needs to develop a sound understanding of pedagogical content knowledge (PCK), technological content knowledge (TCK), technological pedagogical knowledge (TPK), all three taken together as technological pedagogical content knowledge (TPCK) (Beach, Hull, & O'Brien, 2011).

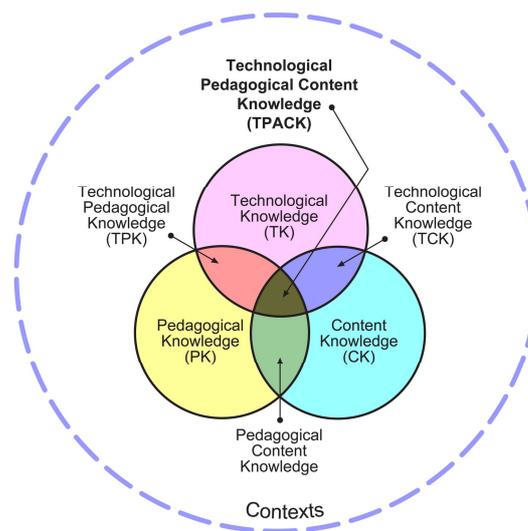


Figure 1. Mishra & Koehler’s TPACK Model. Reprinted from <http://www.tpack.org/>

In line with the pedagogical content knowledge, Egbert, Hanson-Smith, and Chao (2006) provide the following eight conditions for optimal language learning environments:

1. Learners have opportunities to interact and negotiate meaning.
2. Learners interact in the target language with an authentic audience.
3. Learners are involved in authentic tasks.
4. Learners are exposed to and encouraged to produce varied and creative language.
5. Learners have enough time and feedback.
6. Learners are guided to attend mindfully to the learning process.
7. Learners work in an atmosphere with an ideal stress/anxiety level.
8. Learner autonomy is supported.

Erben, Ban, and Castaneda (2009, p. 8) provided five principles for creating effective second language learning environments (p. 8).

1. Give ELLs many opportunities to read, to write, to listen to, and to discuss oral and written English texts expressed in a variety of ways.
2. Draw attention to patterns of English language structure.
3. Give ELLs classroom time to use their English productively.
4. Give ELLs opportunities to notice their errors and to correct their English.
5. Construct activities that maximize opportunities for ELLs to interact with others in English.

Regarding the instructional strategies, language skills and technology, the following table provides a category (Erben, Ban, & Castaneda, 2009, p. 9):

Table 4. Ms. Sylvia’s instructional strategies matched with language macro skill and technology .

Instructional strategy	Reading	Seeing	Listening	Saying	Doing	Further examples of appropriate technology.
Presentation	√	√	√			Video, TV
Demonstration	√	√	√	√		PowerPoint, overhead projector
Discussion	√	√	√	√	√	Email, chat, IM
Group inquiry	√	√	√	√	√	Internet, LCD projector
Problem solving	√	√	√	√	√	Online tools, blogs, wikis, podcasts
Cooperative learning	√	√	√	√	√	Social networks, 4teachers.com
Instructional games		√	√	√		Quia, Hot Potatoes
Simulation		√	√			Sims, Second Life

Table reprinted from Erben, Ban, and Castaneda (2009, p. 9)

Taking into consideration the importance of acquisition of ICT skills and the pedagogical understanding of how ICT skills come together with CALL materials and subject matter (Comas-Quinn, 2011), teachers should understand the theories and principles that form CALL (Butler-Pascoe, 2011). Therefore, any training provided to language teachers on technology and its integration into language and teaching should take these skills and principles into consideration.

2.4.5. Technology standards in Turkey

In Turkey, there aren’t any established standards that help determine what educational technology courses should include and how technologies can be used

in teacher training programs. However, the generic teaching profession competencies and the specific subject matter competencies such as English at 1-8 grade level, prepared by the General Directorate of Teacher Training in Turkey (MEB, 2008a; 2008b), focuses on the skills and knowledge that teachers should be equipped with to meet the students' needs. The competencies were divided into two levels: K-8 and K12 levels. The competencies that have been prepared up to now are related to K-8 levels; however, there is on-going work related to Grades 9-12. They will be used to shape the personal and professional developments of teachers as well as pre-service and in-service teacher training and selection of newly assigned teachers. According to the competencies for English Language Teaching, the technology use has been divided into three levels (Table 5):

Table 5. Turkish teachers of English and Technology competency

Competency Field: 1- Planning and organizing the process of English teaching		
Scope: This field covers the practices of planning English learning-teaching, creating environments for the goals, materials preparation and using these materials.		
Competency: 5- Using technology resources in English teaching		
A1 Level S/he uses technological resources to make learning more effective. S/he encourages learners to gain access to technological resources	A2 Level S/he follows software and the Internet materials used in language teaching. Considering the resources available, s/he provides technological resources to learners by creating environments for learners to use these resources equally.	A3 Level S/he helps learners use technological resources effectively, critically analyzing and evaluating these resources.

Çoklar and Odabaşı (2009) developed a scale based on the NETS•T standards in 2000 (Appendix B). The items of each factor are summarized as follows (p. 139):

1. *Technology operations and concepts* (NETS I). The first factor in the ETSS consisted of items related to the knowledge of teachers about any kinds of technology, especially about computers, and related to their effective use of technology.

2. *Planning and designing learning environments and experiences* (NETS II). The second factor included items related to using technology to support individual learning, following the recent research and current developments, and related to applying these developments in their own classes after checking the appropriateness of them to their own teaching environments.

3. *Assessment and evaluation* (NETS IV). The third factor was made up of items such as applying different measurement and evaluation strategies with the help of technology and processing and reporting data for the purpose of evaluation.

4. *Productivity and professional practice* (NETS V). The fourth factor comprised items related to teachers use computer technologies, especially the Internet-based technologies, to become better teachers.

5. *Social, ethical, legal, and human issues* (NETS VI). The fifth factor covered items related to health and safety issues caused by computer use and those related to copyright issues (Caufman, 2006).

6. *Planning of teaching according to individual differences and special needs* (new factor). The last factor does not exist in NETS•T (International Society for Technology in Education, 2006). This new factor included items related to the planning of special education activities for students who need special attention and those related to equal use of technology. The basic education law for teachers also requires them to provide students with equal educational opportunities and to be responsible for students who are in need of special education (Ministry of National Education, 1973). Furthermore, they also receive education on these issues during their university education (Council of Higher Education of the Republic of Turkey, 1998). Moreover, all students become knowledgeable about being a member in social life with the help of the course Member of Social Life, which is part of the Turkish Education System. In other words, this factor can be said to reflect the sentiment of Turkish people and their culture.

This scale has been used as a questionnaire before and after the study to check the participants' previous knowledge on technology and language learning and the effect of the study on their perceived knowledge. The item 41 in the scale, "With the help of technology, I can design learning environments for those who need special education due to their loss of hearing or their defect of vision.", has not been included as there is not any available course in the curriculum that appeal to this item.

CHAPTER III

METHOD

3.0 Presentation

Information on the procedure and method of this study is provided in this chapter. The study focuses on the impact of call instruction on in-service language teachers' and pre-service language teachers' use of CALL-based activities by finding out how they transfer their knowledge of technology gained in the course into their own classroom, what factors influence their use of computers in their classroom and how they can be assisted in continuing learning about new technologies and applying new activities. The chapter is organized in the following sections: design of the study, participants, research questions, data collection instruments, data collection procedures, and data analysis.

3.1. Methodology

3.1.1. Research method

In quantitative research, a study begins with research questions or hypotheses that are specific; however qualitative research starts with questions that are to be studied holistically. There are some advantages of these two perspectives over each other based. However, choosing one research perspective or both of them depend on the research questions and the nature of the study. There are some

distinctions made between quantitative and qualitative research as provided in Table 6 (McKay, 2006, p. 7).

Table 6. Features of Quantitative and Qualitative Research

	Quantitative Research	Qualitative Research
Assumptions about reality	Reality is single; it can be broken down and parts studied.	Reality is multiple; it can only be studied holistically.
Role of researcher	The researcher and object of inquiry are separate; hence one can look at reality objectively. The researcher's role is to observe and measure. The researcher exerts control over the variables.	The researcher and what is researched are interdependent. The researcher's role is to become part of what is being studied. The researcher does not intervene.
Purpose of research	The purpose is to generalize, to predict, and to posit causal relationships.	The purpose is to contextualize and to interpret.
Research questions	The research question is arrived at deductively. The researcher starts with a hypothesis.	The research question is arrived at inductively. The researcher observes and formulates questions.
Research design	The researcher has a hypothesis and set methodology. The object is to summarize data in numerical indices.	The research design evolves over time. Once the data is gathered, the researcher looks for patterns.
Length of study	The study can involve a fairly short time commitment.	The study can involve a very long time commitment.
Typical data	There is a large, random sample. Numerical indices involving tests or responses to surveys are often used.	There are a purposeful, limited number of participants. Field notes, interviews, and written documents can all be used.
Data analysis	There is statistical analysis.	There is an interpretative analysis of the data and categorization of the data.
Research report	Technical language is used.	Descriptive language is used.

Table reprinted from McKay (2006, p. 7).

The current study has quantitative and qualitative perspectives. That is, these two perspectives or traditions have been combined into the study. Moreover, as the contextual conditions play an important role and highly relevant to the focus of the research questions, the current study can be considered as an action research case study. Though it is difficult to define what a case study is, as what the researcher focus on and how s/he researches it, case studies gather data from one individual to a school or a larger community through resources such as interview data, observations, reports and written documents. According to Schreiber and Asner-Self (2011), a case study is

“... a systematic collection of information about a person, group, or community; social setting; or event in order to gain insight into its functioning. A case is bounded in time and place.” (p. 12).

According to Hitchcock and Hughes (1985, as cited in McKay 2006, p. 71), case studies have the following distinctive features:

1. It is concerned with a rich and vivid description of event relevant to the case.
2. It provides a chronological narrative of events relevant to the case.
3. It blends a description of events with the analysis of them.
4. It focuses on individual actors or groups of actors and seeks to understand their perceptions of events.
5. It highlights specific events that are relevant to the case.
6. An attempt is made to portray the richness of the case in writing up the report.

Case studies, according to Schreiber and Asner-Self (2011), are strong as they allow a variety of methods to be used and data to be collected through multiple perspectives, which is called mixed method, thereby increasing accuracy. However, the evaluator should be very cautious about evaluation and does his/her best to have a sound evaluation as it is possible that s/he can fail to provide enough information for a final judgment. This weakness can be overcome through exposing data to several evaluations done by other experts or colleagues.

3.1.2. Participants

The participants in the study were 35 pre-service English as a Foreign Language (EFL) teachers who took an undergraduate-level elective CALL course (FLE318) offered during the 2008-2009 academic year in the Department of Foreign Language Education at Middle East Technical University and 25 teachers who started teaching English during the Fall semester in the academic year 2009-2010 at several private and state institutions. The training lasted 14 for weeks, 5 hours each week. Considering the amount of the information that needs to be covered in the course, a two-hour lab class allowing structured practice was held for students, especially who were not comfortable with technology. The profile of the participants is provided in Tables 7 and 8.

Table 7. The profile of the participants before the training

<i>First language</i>	Turkish	33
	Mongolian	1
	Azerbaijani	1
<i>Years of learning English</i>	5-10	30
	more than 10	5
<i>Age</i>	18-20	29
	20-22	6
<i>Gender</i>	Male	7
	Female	28
<i>Reason for taking the FLE course</i>	Interested	20
	No other elective course	7
	Other	8

Table 8. The profile of the participants after the training

<i>First language</i>	Turkish	25
<i>Current teaching level</i>	K6-8	10
	K9-12	10
	College	5
<i>Age</i>	23-24	25
<i>Gender</i>	Male	4
	Female	21
<i>School/College</i>	Public School	19
	Private School/College	6

3.1.3. Research questions

1. How does in-service EFL teachers' gained knowledge in their pre-service CALL training impact their teaching?
2. What are the factors that may affect EFL teachers' use of CALL tools in their teaching contexts?

3.1.4. Data collection instruments and procedures

The visual representation of the design of the study and the procedures are provided in Figure 2. As Mackey and Gass (2005) points out, piloting a study, a small-scale trial of the methods and materials to be covered in a study, is vital as it helps the researcher to uncover any problems, conflicts and to finalize the materials and methods. Therefore, the content of the course, interview and the survey questions were based on the literature review and the content of the FLE 318 course. The questions were pilot-tested with several students who had completed the course offered during the academic year 2006-2007. The content of the training was also revised based on the suggestions made by the participants and the findings of the pilot test (Kılıçkaya, 2009). The participants who had taken the undergraduate-level CALL course (FLE 318) were interviewed on how they transferred their knowledge of technology gained in the course into their own classroom, what factors influence their use of computers in their classroom and how they continued to learn new technologies and how to apply them. The topics and the content of FLE 318 syllabus were changed according to the responses gained from the interviews.

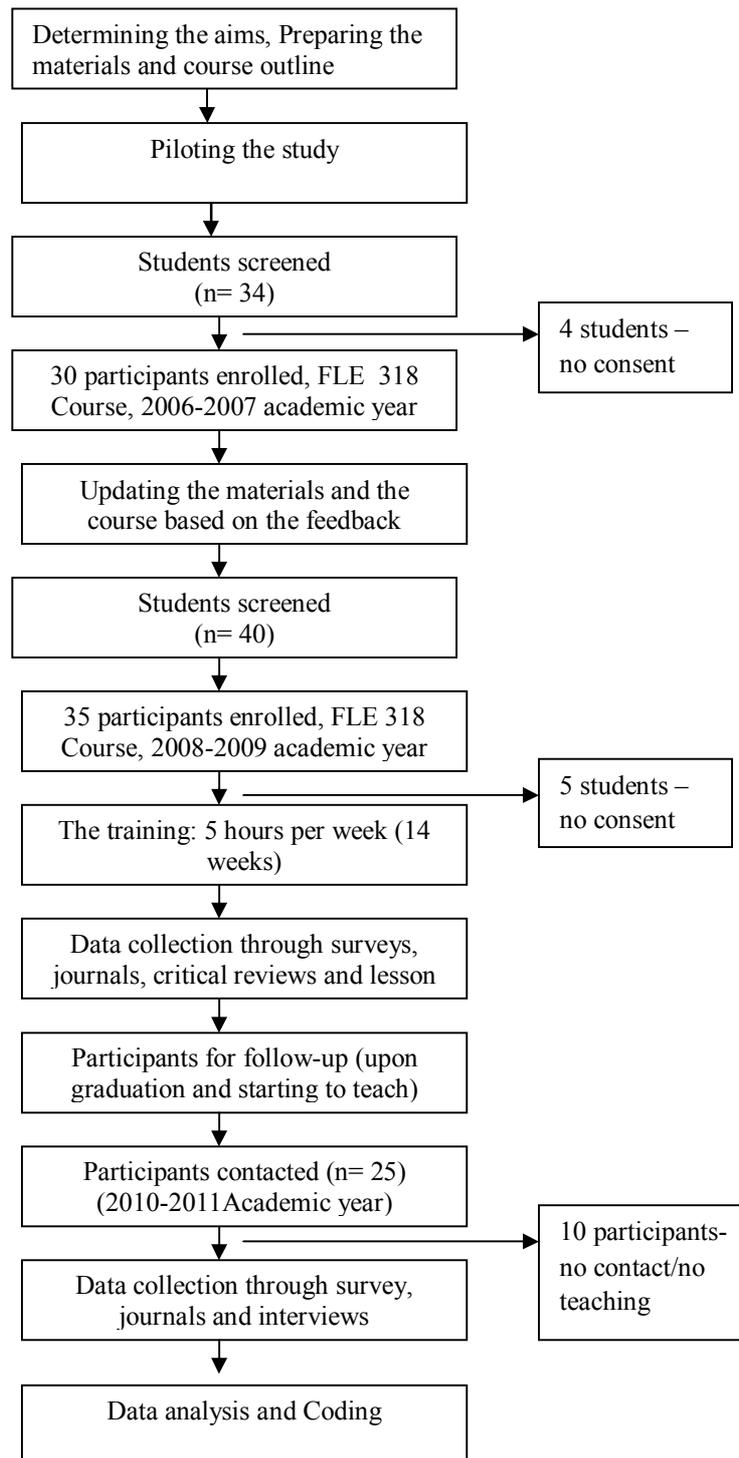


Figure 2. Visual representation of the design of the study

Upon agreeing to participate in the study and signing the Informed consent based on the sample provided by Mackey and Gass (2005, p. 33), the participants responded to the scale, developed by Çoklar and Odabaşı (2009) based on the NETS•T standards in 2000. The scale included 6 constructs together with 41 items (Appendix B). The same scale was also applied when the training was finished to see how their perceived computer knowledge changed or improved.

Throughout the study and after the participants started teaching, they were asked to keep a journal on their own blogs regarding what they learned and to chart their progress, thoughts and feelings about the training, how it affected their choice of CALL-based materials, when they used these materials and when did not and the reasons for their decisions on the use of technology. Over the course of the semester the participants were required to write two critical reviews of technology in which they explored the Internet to find some tool, technology or product that they thought it might be useful or not useful (Appendices E & F).

Towards the end of the semester, the participants were also required to write a lesson plan that includes any technological tool that they considered to be helpful in achieving their lesson plan objectives. Moreover, in addition to these lesson plans, they were asked to try to infuse what they learned during their training into their practice teaching, micro and macro teaching lesson plans.

The participants' lessons plans during their micro and macro teaching at the schools were analyzed to figure out how they benefited from CALL-based materials in their practice teaching.

When the participants graduated and started to teach, they were asked to keep a journal in English on their blogs. They were asked to note down what worked and what did not when they used CALL-based materials and the reasons for their decisions on the use of technology. Regarding the technological resources available to them and the school environment, the participants were provided with another questionnaire, based on Hong's (2009, p. 144) survey on technology environment in the school which includes 15 items (Appendix C). Moreover, the researcher also interviewed 25 participants, as ten of them did not opt for any teaching position, on their use of integrating technology into their teaching using Skype. The interviews were semi structured, conducted in English and the role of the questions was just to initiate the discussion. The main questions were as follows:

1. Have you benefited from any technological tools in your classroom? Can you please give examples? If your answer is no, can you provide reasons for that?
2. Did your school support you when you wanted to infuse technology into your teaching?
3. What are the difficulties that you have faced while using CALL tools? What are the main reasons for not using CALL tools?
4. Did you have the chance to observe your colleagues at your school practicing the use of technology in their classrooms?

Data analysis included both descriptive and inferential statistics as well as content and coding analysis was conducted so as to analyze the data. The questionnaires were statistically analyzed through *IBM SPSS Statistics Desktop version 20* and all the written documents, interviews and journals were subjected to content and code analysis through *MAXQDA version 10*.

3.2. Data analysis

3.5.1. The questionnaires

The questionnaires implemented in the study were analyzed through *IBS SPSS Statistics Desktop version 20*. Descriptive and inferential statistics were applied while analyzing the responses given to the questionnaires. Descriptive statistics was used to learn about the school atmosphere where the participants worked as a teacher of English, while inferential statistics was applied through one way analysis of Variance (ANOVA) to compare the participants' perceived level of computer knowledge before and after the study. The reliability statistics of the questionnaires administered in the study were above the cronbach alpha coefficient, which is set at $r=.70$. The coefficient of the questionnaire administered to reveal the participants' perceived computer knowledge was .76 and the coefficient of the questionnaire given to the participants to learn about the school environment was .82.

3.5.2. Lesson plans, critical reviews, journals and the interviews

The data collected through lesson plans, critical reviews, journals and interviews were subjected to content analysis and code analysis through *MAXQDA version 10*.

Content and code analyses were conducted on the steps suggested by Stake (1995, as cited in Schreiber & Asner-Self, 2011). The first stage included organizing the data about case chronologically and hierarchically. Then, the researcher began to categorize the data and developed categories in order to cluster data into meaningful units. As a final stage the researcher examined the data in relation to the case overall, leading to patterns and codes. During this process, the researcher collaborated with another field expert, compared the codes and patterns, discussed and made necessary changes. While providing the participants' quotations throughout the data analysis, and results and discussion sections, the following abbreviations have been applied:

Participant ID	:	PI
Participant group	:	Pre-service (Pre)/ In-service (Ins)
Gender	:	Male (M)/ Female (F)
<i>Data source</i>		
Interviews	:	Int
Journals	:	Jrl
School type	:	Private (Pri) /Public (Pub)

In order to ensure consistency between the coders and the reliability of the content analysis, Kendall's Coefficient of Concordance Law was calculated. For critical reviews, coefficient of concordance was .863; for lesson plans prepared by the participants, it was .943; for interviews, it was .853; and for the journals kept by the participants, it was .883. All coefficients of concordance were higher than .85, leading a statistically significant reliability.

3.5.3. CALL course

FLE318: *Audio-visual aids in ELT* is an elective course offered by the researcher at the Middle East Technical University in Turkey. The most unique feature of this course was its focus on classroom applications of technology (i.e., conceptual development) rather than on technical skill development.

The course was designed taking the following 4 constructs into consideration (Mishra and Koehler, 2006; Shulman (1986) as cited in Chai, Koh, Tsai and Tan, 2011):

- a. Technological Knowledge (TK)- knowledge of computers
- b. Content Knowledge-subject matter (English).
- c. Pedagogical Content Knowledge (PCK) - "ways of representing and formulating the subject that make it comprehensible to others (Shulman, 1986, p. 9).
- d. Technological Pedagogical Content Knowledge (TPACK)- using appropriate pedagogy and technology to improve students' learning

Moreover, the focus was on preparing teachers to use technology for instruction taking SLA theories into consideration to evaluate and create CALL-based materials rather than merely focusing on the digital literacy or software specific orientation (Kessler, 2006; Kessler & Bikowski, 2011). According to the course syllabus,

The purpose of this course is to explore the English language teaching-specific technological tools which can be used to support teaching and learning activities, focusing on the conditions for optimal language learning. It is also aimed at helping teachers make meaningful connections between technology and teaching. The technologies utilized in this course will range from the most basic tools such as the Discussion Boards, Internet chat, video conferencing and Web 2.0 tools such as Wikis, Blogs. As we become familiar with these tools, we'll use them to create practical activities/lessons. Over the course of the semester, you will read a number of articles pertaining to the use of these technologies in language classrooms. These articles will range from mostly theoretical to purely practical in nature. However, it is important to note that this course is not meant to serve as a foundation in the theoretical foundations of CALL, CMC, or any other acronym related to technology in the classroom. The class discussions and assignments will reflect a more practical philosophy.

The objectives to be reached are given item by item in the syllabus as:

- Understand the general operating principles of electronic technologies, hardware and software.
- Learn vocabulary related to computer-assisted second and foreign language learning.
- Experiment with and evaluate current computer applications in second and foreign language learning.
- Learn how to design and integrate computer work into second and foreign language courses.
- Understand the theories and principles that form CALL and conditions for optimal language learning environments
- Review and evaluate current research in CALL

Finally, the topics included in this course are explained in syllabus in 2009-2010 Academic Year (See Appendix D), after being revised taking the suggestions and comments provided the students of the course offered in the academic year of 2006-2007 (Table 10). As it can be seen, there are three parts in this syllabus – software based applications, web based applications and theoretical information about the use of CALL; and the syllabus is mostly based upon web based applications (Table 11).

Table 10. Parts of topics in CALL Course in 2006-2007

Theoretical Information	Software Based Applications	Web Based Applications
<ul style="list-style-type: none"> • Introduction to the History of CALL 	<ul style="list-style-type: none"> • Creating Online Quizzes using Hot Potato Software • Creating a Web Page I – II 	<ul style="list-style-type: none"> • Computer Mediated Communication (CMC) (Synchronous and Asynchronous) • Concordance: Text analysis and worksheets • Creating and Using Blogs in Teaching • Using Wikis in ELT

Table 11. Topics covered in the CALL course in 2009-2010

Theoretical Information	Software Based Applications	Web Based Applications
<ul style="list-style-type: none"> • Introduction to the History of CALL • SLA theories, Language Teaching Methodology and CALL: How do they come together? • Conditions for optimal language learning environments and CALL • Social, Ethical and Human Issues 	<ul style="list-style-type: none"> • Creating Online Quizzes using Hot Potato Software and online quiz generation tools • Advanced use of PowerPoint: Adding Interaction • Course Management Systems: Moodle and Dokeos 	<ul style="list-style-type: none"> • Computer Mediated Communication (CMC) (Synchronous and Asynchronous tools) • Creating and Using Blogs and Wikis in education

CHAPTER IV

DATA ANALYSIS AND RESULTS

4.0 Presentation

In this study, both descriptive and inferential statistics as well as content and coding analysis were conducted so as to analyze the data. The questionnaires were statistically analyzed through *IBS SPSS Statistics Desktop version 20* and all the written documents, interviews and journals were subjected to content and code analysis through *MAXQDA version 10*.

This study investigates the impact of CALL training on in-service language teachers' use of CALL-based activities in their classrooms and what factors influence their use of these activities in their classroom. The main research questions of this study are stated as follows:

1. How does in-service EFL teachers' gained knowledge in their pre-service CALL training impact their teaching?
2. What are the factors that may affect EFL teachers' use of CALL tools in their teaching contexts?

Taking the main aim and the research questions of the study into consideration, the following aspects were investigated:

1. The participants' perceived computer knowledge before the training

2. The content of the lesson plans created for micro and macro teaching during and after the training
3. The content of the critical reviews written during the training
4. The journals written during the study on several aspects of training
5. The participants' perceived computer knowledge after the study
6. The school environment in the pre-service teachers of English
7. The journals and the interviews on how the participants infused technology and the emerging issues during their in-service teaching

4.1. The participants' perceived computer knowledge and technology integration before the training

In order to find out the participants' perceived computer knowledge and technology integration in their subject area, English language teaching, the scale developed by Çoklar and Odabaşı (2009), which is based on developed a scale based on the NETS•T standards in 2000 has been used (Appendix B). The scale included 40 items and six factors presented below:

1. Technology operations and concepts
2. Planning and designing learning environments and experiences
3. Assessment and evaluation
4. Productivity and professional practice
5. Social, ethical, legal, and human issues
6. Planning of teaching according to individual differences and special needs

The Table 12 shows the responses provided to the scale. As the table indicates, before the study, the participants do not consider themselves competent in almost all the factors presented in the scale, except the *factor of productivity and professional practice*. The responses show that the participants agree with the following items in the scale:

Item 22. *To become a more effective teacher, I can find information on the Internet.*

Item 23. *I can share ideas with experts and colleagues on an online basis to develop my teaching skills.*

Item 25. *To become a more productive teacher, I can use software (such as Microsoft Word, Excel, and PowerPoint) that will increase the quality of instructional applications.*

Item 27. *In order to have cooperation among my students, their parents, and my colleagues, I can use such communication tools as e-mail, forums, and discussion groups.*

Item 29. *I can benefit from Internet services to support the learning process during the education program.*

Item 32. *In order to increase student learning, I can use technological sources for the establishment of communication with parents.*

Item 33. *I can use technological devices to send the results of any evaluation of the teaching process to students and their parents.*

The responses to these statements show that the participants make use of computers and the Internet for communication and for the coursework requirements. Item 25, for example, had the highest agreement mean (4, 83). The interview data also verify this finding that most of them feel competent enough to do any work via word-processing and presentation software as well as having online such communication as e-mail, forum and discussion groups. This can be associated with the course requirements such as preparing presentations, emailing and the previous training in their computer courses. It is clearly seen

that the participants mostly deal with presentations and essays, which require them to use these technologies as they are easy to access and use frequently and efficiently, which is emphasized by Lin, Lee, and Chen (2004, p. 135), “among various application software, either generic or subject-specific, word processors and presentation software probably are used most often in language education”. However, the most striking finding is that all the participants do not consider competent considering the factors, especially in planning and designing learning environments and experiences.

Table 12. The participants’ perceived computer and technology integration knowledge

ITEMS	Mean	Std. D.	Std. Er.
1. I can explain how technological devices operate.	1,89	,323	,055
2. I can use technological devices in different ways.	1,71	,458	,077
3. I can define the technological devices found in our faculty.	1,29	,458	,077
4. I can do basic things regarding computer technologies.	2,71	,572	,097
5. I can explain general concepts related to computer technology.	1,71	,458	,077
6. I can use technological devices effectively.	1,60	,497	,084
7. I can choose the technology appropriate to the teaching process by evaluating the present technological sources.	1,29	,458	,077
8. I can state whether the electronic sources are suitable for the planning of learning activities.	1,31	,471	,080
9. I can inform students about the benefits of using different technological devices in the process of teaching.	1,23	,426	,072
10. I can use sources on the Internet in order to prepare different learning activities and teaching strategies.	1,23	,426	,072
11. I can make use of research findings about technology use for the planning of educational environments.	1,11	,323	,055
12. I can determine whether technological sources are suitable for student use.	1,26	,443	,075
13. I can explain how technological sources should be used to increase the effectiveness of education.	1,31	,471	,080
14. I can shape the teaching process in line with new educational technologies.	1,20	,406	,069
15. In order to assess students in different respects, I can form an evaluation procedure that consists of various measurement techniques.	1,14	,355	,060
16. I can plan teaching strategies that require the use of different technological sources.	1,17	,382	,065

Table 12 (continued). The participants' perceived computer and technology integration knowledge

17.	I can plan learning activities based on technology use in order for students to yield creative products.	1,14	,355	,060
18.	I can follow technology-based measurement and evaluation strategies which will help evaluate the performance of students via such tools as portfolio and e-mail.	2,43	,739	,125
19.	I can use technology for the purpose of developing appropriate strategies to solve the real life problems.	1,11	,323	,055
20.	I can use technological tools to process and report all kinds of data related to the teaching process.	3,20	,473	,080
21.	I can help students find their own measurement tools to evaluate their own learning processes.	1,86	,355	,060
22.	To become a more effective teacher, I can find information on the Internet.	3,94*	0,04 8	,077
23.	I can share ideas with experts and colleagues on an online basis to develop my teaching skills.	3,86*	,355	,060
24.	To become a more effective teacher, I can evaluate myself in terms of my improvement in technology use.	2,83	,382	,065
25.	To become a more productive teacher, I can use software (such as Microsoft Word, Excel, and PowerPoint) that will increase the quality of instructional applications.	4,89*	,323	,055
26.	I can explain how I will benefit from technology to keep lifelong learning.	2,83	,382	,065
27.	In order to have cooperation among my students, their parents, and my colleagues, I can use such communication tools as e-mail, forums, and discussion groups.	4,83*	,382	,065
28.	To become a more effective teacher, I always develop myself in terms of new technological tools.	2,17	,382	,065
29.	I can benefit from Internet services to support the learning process during the education program.	4,69*	,471	,080
30.	I can use technology in my own teaching process by observing how it is used in the teaching process.	2,83	,382	,065
31.	I can explain the effects of the use of such electronic environments as computers and the Internet on social life.	1,86	,355	,060
32.	In order to increase student learning, I can use technological sources for the establishment of communication with parents.	3,69*	,471	,080
33.	I can use technological devices to send the results of any evaluation of the teaching process to students and their parents.	3,51*	,507	,086
34.	I can state the legal issues about technology use.	1,17	,382	,065
35.	I can explain the important issues related to the copyright of any technological system.	2,51	,507	,086
36.	I can explain the issues related to the equal use of technology.	2,17	,382	,065
37.	I can explain the health-related issues that could be caused by technology use in schools.	1,23	,426	,072
38.	I can explain the safety precautions to be taken for a safer use of technology in schools.	1,37	,490	,083
39.	I can make a plan that will allow all the students to use the technological sources.	1,63	,490	,083
40.	I can prepare lesson plans that will allow using technology to meet the different needs of students.	1,89	,323	,055

4.2. CALL-based tools used in the lesson plans created for micro and macro teaching during the training

The participants of the study, during the training about the infusing of technology into language classrooms, also enrolled in practice teaching course and they prepared lesson plans for their micro teaching. In the second semester, as a continuation of their practice teaching, they also prepared lesson plans for their macro teaching. These practice teaching courses give them a structured introduction to teaching as well as acquiring teaching competencies and developing teaching skills. The lesson plans prepared during the first semester and the second semester were analyzed in terms of which CALL-based tools were used and how they are applied. Table 13 provides a sample description of how the participants applied their knowledge about technologies while they were creating lesson plans. Coding results of the participants' lesson plans they applied a variety of tools to their classrooms, ranging from listening activities to wiki pages and authoring tools (Figure 3).

Considering the four skills in teaching and learning English, the participants in the study applied various tools. For listening activities, they benefited from websites that allow audio materials such as ELLLO.org and Esl-lab.com; and video websites such as YouTube. The participants also re-used the audio materials available from these websites to create listening activities using QuizFaber and Online tools such as QuizStar.

Table 13. Sample description of how pre-service teacher candidates applied CALL-based tools as they created lesson plans for micro and macro teaching

CALL-based tool	Skill/Content	Pedagogy
Listening websites (Ello and esl-lab) Videos (YouTube)	<i>Listening/Speaking</i> (Audio files as well as the videos)	The teacher prepared materials based on the audio and video files available on <i>Ello.org</i> and <i>Esl-lab.com</i> . The materials included several pictures, providing a pre-discussion on global warming. Then, they compared their solutions and the ones suggested by the listening materials
Concordance (jukuu, COCA)	<i>Reading and writing/grammar</i> (Word choice, frequency and sample sentences)	The teacher had the students prepare a list of sentences that exemplify the words used in the unit, such as visit and vary, using the websites <i>Jukuu</i> and <i>COCA</i> . Then, the students checked the word choice and the frequency of the word usage of the provided words.
Wikis (PBworks)	<i>Reading and Writing/grammar</i> (Collaborative writing texts)	The teacher created a wiki page on <i>PBworks</i> and published an interesting story whose ending is left to the students. The students in pairs and groups visited the page and published their own ending to the story. At a later stage, the endings provided by the students were discussed and the teacher provided feedback in terms of grammar and choice of vocabulary.
Online dictionaries (Cambridge, Macmillan)	<i>Reading and writing/grammar</i> (Vocabulary practice and worksheets)	The teacher had the students create their own worksheets on synonyms using the online dictionaries provided by <i>Cambridge</i> and <i>Macmillan</i> . Then, the students exchanged their worksheets with others as homework.
Authoring tools (QuizFaber, QuizStar)	<i>Listening/Reading</i> (Vocabulary, Listening and Reading exercises)	The teacher prepared a vocabulary exercise via <i>QuizFaber</i> based on the story that the students had previously read and discussed in class. The exercises included the highlighted words and phrases of the story.
PowerPoint as a presentation and authoring tool	<i>Reading and Speaking, Writing/Grammar</i> (Pictures and sentences)	The teacher created a game using PowerPoint which included a matching activity. The students were provided with pictures and a variety of sentences and asked to choose the sentence that best describes the picture.

Activities related to reading and vocabulary included tools online dictionaries such as Cambridge, and MacMillan; authoring tools and concordance activities using *Jukuu* and *COCA*, Corpus of Contemporary American English, with CALL-based tools as they created lesson plans for micro and macro teaching

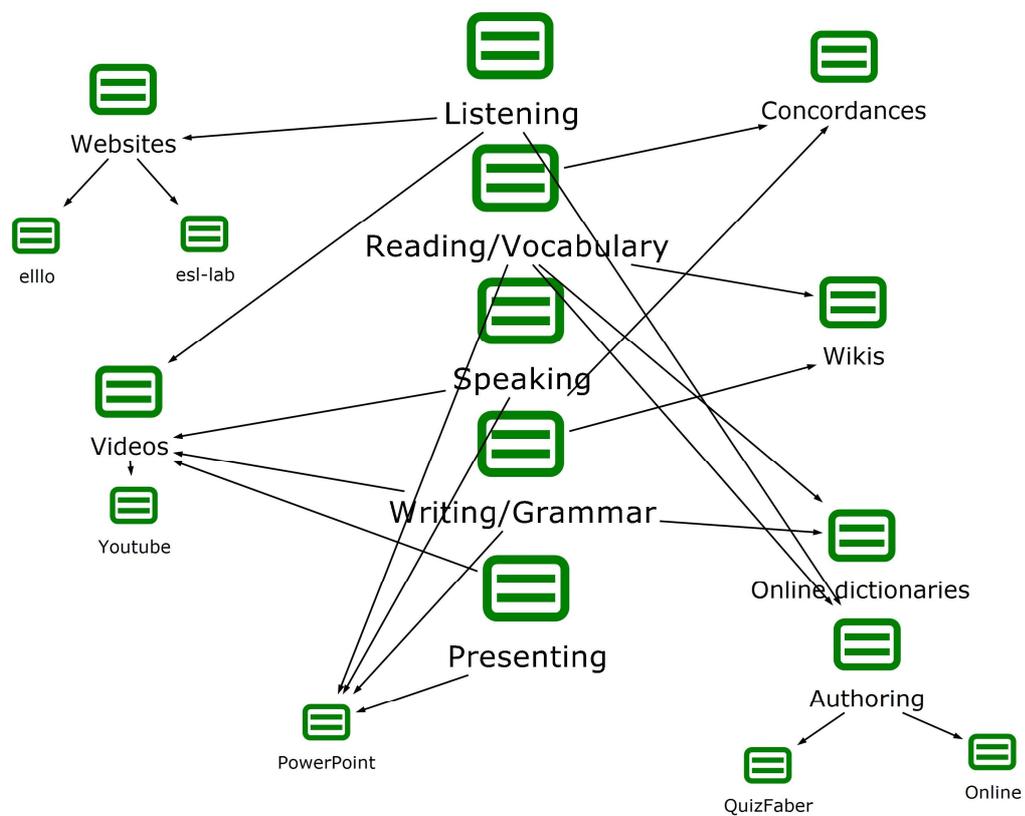


Figure 3. CALL-based tools in the micro and macro lesson plans

access to 425 million words. Speaking activities mostly focused on the videos available through YouTube, a popular video publishing and sharing websites, ranging from personal videos to global issues. Writing activities were created based on a variety of tools such as Wiki pages, Concordance websites, online dictionaries and videos. The most popular presentation tool, PowerPoint, was used almost in all skills to present items or topics using pictures and to provide exemplary sentences to initiate understanding and discussion.

4.3. The emerging tools in the participants' critical reviews

As a requirement of the course and the training, the participants were asked to write two reviews of technology, similar to a critical review of an article, through exploring the Internet and finding a tool or a product that they thought useful or not useful. Figure 4 shows the emerging tools that are used in four language skills. Some of the tools or websites reviewed can be used in more than one skill as Table 14 shows. The critical reviews written by the participants include a variety of tools that can be listed under two categories: Software and Online. Software category includes the tools that require installing on a computer, while online category includes the tools that are available on the Internet and be accessed online.

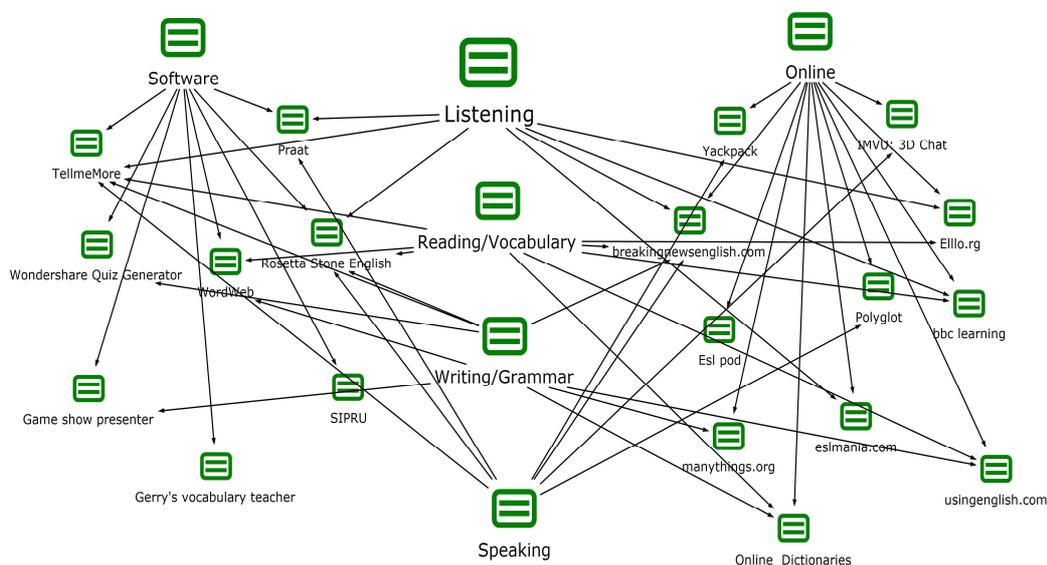


Figure 4. CALL-based materials reviewed in critical reviews

Table 14. The CALL-based tools in the critical reviews

Skill focused	CALL-based tool	
	Software	Online
<i>Listening</i>	Tell me more Praat Rosetta Stone English	Eilho BBC learning Breakingnewsenglish Eslmania
<i>Reading/vocabulary</i>	TellmeMore Rosetta Stone English WordWeb	Breakingnewsenglish BBC learning Eilho Online Dictionaries Usingenglish.com
<i>Writing/Grammar</i>	TellmeMore Rosetta Stone English WordWeb Wondershare Quiz Generator	Breakingnewsenglish
<i>Speaking</i>	TellmeMore Rosetta Stone English Praat	Yackpack Breakingnewsenglish IMVU: 3D Chat Polyglot

4.4. The journals written during the study on several aspects of training

As the researcher was aware of the fact that technology changes every day and some tools lose its popularity, while new ones come into stage, the training also included making the participants aware of the journals such as *CALICO Journal* and *Teaching English with Technology*, of the websites such as *teachertrainervideos.com*, and online communities of practice such as *Evo sessions*. During the training, the participants were asked to keep a journal on several aspects of training, focusing on the strong and weak aspects of the training, their suggestions and comments. The emerging codes have been provided in Figure 5.

The journals written by the participants focused on the three aspects of the training: Theoretical, practical and the resources provided. Most of the participants expressed their positive comments on the theoretical aspect of the training and stressed the importance of providing a link among SLA theories, conditions for language learning and how CALL can bring these two together.

One participant expressed it this way:

At the beginning of the course, I thought that we were going to use technology just to use it. You know, using technology in your classroom is very prestigious and nobody is interested in how you are using it. However, in this course I had the opportunity to examine which tool or tools and how they will help my students in their learning. Especially, creating a link between what SLA theories tell us and how we can achieve more through tools available on the Internet made me feel more confident while using technology in the class. [PI:05, Pre, M, Jrl]

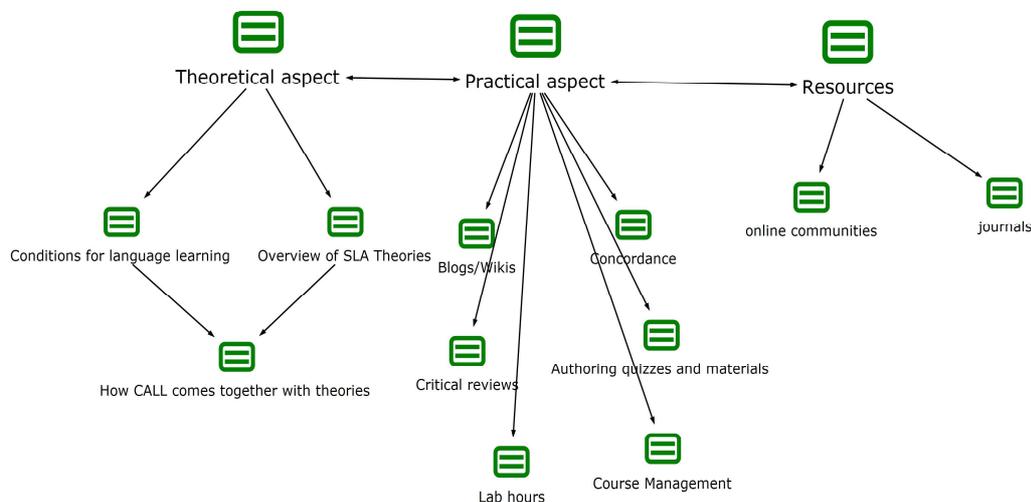


Figure 5. The participants' views on several aspects of the training

Another participant added that:

I think it is of utmost importance to know why we are using technology in the classroom. We should not put technological equipment into our classroom just because they are new or attractive. We have to decide whether they are appropriate to the content or skill that we are teaching. In other words, the technology we are using should fit the students' needs and we have to be sure that it will help them learn more. Therefore, it was good to see how technology fits the language learning in the course. [PI:12, Pre, F, Jr]

Regarding the practical aspect, the participants provided their opinions on some of the tools that were discussed during the training. These included blogs and wikis, critical reviews, concordance, authoring quizzes, lab hours and course management tools. One participant highlighted her change of attitude stating that:

Before the training, I thought it was enough to use Microsoft Word and PowerPoint for tasks such as writing exam questions and presenting and the Internet to find materials such as audio materials. However, during the training and while writing the critical reviews, I noticed that there were many freely available tools that I would benefit from not just for my own tasks but also for instructional purposes. [PI:30, Pre, F, Jrl]

Most of the participants agreed that integration of blogs and wikis as well as concordance websites in teaching English would help them a lot. One participant illustrated how her knowledge evolved:

In the beginning, I was a little bit hesitant about the tools that we would learn. However, when I was introduced to blogs, wikis and concordance, I got excited. There were many ways to integrate these tools. The limit was the sky. I could easily create vocabulary worksheets for my students in the school during my practice teaching using the concordance websites and the mentor teacher in my school were also interested in that. That was easy and fun for both my students and me. [PI:23, Pre, F, Jrl]

Another participant shared his excitement about the authoring software, saying that:

I was always wondering how people were creating quizzes on the Internet, showing feedback and score at the end of the quizzes. Thanks to this course and the time I spent during the lab hours, I learned how to create similar quizzes; maybe better ones. I did not think that it was that easy. I also learned how to integrate these into Moodle, which was great. [PI:33, Pre, M, Jrl]

As for the third aspect, resources, the responses indicated that the journals that specifically deal with the integration of technology into classrooms and the online communities helped them learn more. In alignment with this finding, the interviews held with the participants who started teaching in public and private schools revealed that most of the participants tried to follow the journals on the

integration of technology into classroom and attended online sessions *Evo sessions*. As aforementioned, these participants did not have any difficulty in following these journals and attending the sessions as all these were provided in English, which is an advantage to them. Most of the participants stated that they tried to follow the journals on the integration of technology into classrooms and attended online sessions held by the famous online community of practice, *Evo sessions* (evosessions.pbworks.com). These sessions, according to the participants, provided the opportunity to improve and build on what they had learned during the training through access to valuable discussions, solutions and the introduction to the newly available technological tools and materials. Moreover, some of the participants added that they got in touch with the instructor of the course on the possible uses of new technology and got suggestions through the forum page of the website of the course, which was available for a year. Regarding all these, the interviews indicated that the participants valued all these resources available to them; however, they required that appropriate in-service training should be provided through face-to-face or blended learning.

One of the participants stated that:

As our instructor told us, what we were dealing with was just the tip of the iceberg. As we learned, we learned that there were a lot more. Online communities as well as the articles on several journals focusing on technology [webheads, <http://www.webheadsinaction.org/>; *Evo sessions*, <http://evosessions.pbworks.com>] helped me a lot on learning new things about technology and language learning. [PI:10, Ins, F, Int, Pub]

Another participant commented that

We, as future language teachers, at an advantage over the other teachers in terms of technology as almost all the things published on the Internet is in English and the tools available on the Internet provide detailed tutorials. I, for example, learned how to create a survey online through a tutorial although it was not included in the syllabus of the course. The important thing is that you should be willing to integrate technology. [PI:08, Pre, F, Jr]

Almost all the participants provided positive comments about the training and the choice of the tools. However, most stated that they were not sure whether they could benefit from what they learned in their future career. One of the participants clearly voiced a fear in his/her journal:

I have learned a lot in this course and I feel that integration technology in my classroom is not an option but a requirement. However, I cannot help myself thinking whether I will have the opportunity to implement what I have learned. I am thinking of working at a public school and I fear that there will be a lack of technology or support that will prevent me from using technology in the classroom. [PI:03, Pre, F, Jr]

4.6. The participants' perceived computer knowledge and technology integration knowledge after the training

To determine whether there are any statistically significant differences between the responses given to the scale of the participants' perceived computer knowledge before and after the training, one way analysis of Variance (ANOVA) was applied at the significance level ($p < .05$). The Table 15 shows the results of the analysis, comparing the responses provided to the scale before and after the study. As the table indicates, before and after the training, there are no statically significant differences in the items of 22, 23, 25, 27, 29, 32 and 33,

which means that all the participants' perceived computer knowledge and technology integration have statistically improved on the following factors:

1. Technology operations and concepts
2. Planning and designing learning environments and experiences
3. Assessment and evaluation
4. Productivity and professional practice (insignificant difference on some items)
5. Social, ethical, legal, and human issues
6. Planning of teaching according to individual differences and special needs

However, a word of caution is due here. The results provided here are just the participants' perceived responses. The training and discussion in the class and lab hours specifically focused on how technology can be introduced into language classrooms. Moreover, during the lab hours, the participants' questions on technology integration as well as technical problems or suggestions such as downloading YouTube videos were discussed in detailed. Therefore, the significant results found may not present what their knowledge or practice may include. However, as shown by Kessler and Plakans (2008), increasing self-perception of competence or knowledge positively affects human behavior, in our case, teachers' integration of technology. Teachers' positive sense of competence can lead to better integration of technology into their classrooms.

Table 15. One-way ANOVA results of the Perceived computer knowledge

	Pre-study	Post-study	Mean Square	F	Sig.
<i>item1</i>	1,89	4,00	65,190	1067,231	,000
<i>item2</i>	1,71	3,80	63,440	330,216	,000
<i>item3</i>	1,29	4,36	137,830	619,566	,000
<i>item4</i>	2,71	4,68	56,350	197,091	,000
<i>item5</i>	1,71	4,16	87,230	481,713	,000
<i>item6</i>	1,60	4,68	138,343	579,763	,000
<i>item7</i>	1,29	3,76	89,280	442,479	,000
<i>item8</i>	1,31	4,80	177,190	890,338	,000
<i>item9</i>	1,23	4,04	115,269	937,481	,000
<i>item10</i>	1,23	4,88	194,439	1279,865	,000
<i>item11</i>	1,11	4,28	146,150	987,635	,000
<i>item12</i>	1,26	4,56	159,088	718,300	,000
<i>item13</i>	1,31	4,32	131,750	588,586	,000
<i>item14</i>	1,20	4,92	201,810	1573,250	,000
<i>item15</i>	1,14	3,52	82,408	454,092	,000
<i>item16</i>	1,17	3,44	75,052	227,532	,000
<i>item17</i>	1,14	3,96	115,738	596,919	,000
<i>item18</i>	2,43	4,16	43,719	115,618	,000
<i>item19</i>	1,11	2,80	41,440	318,652	,000
<i>item20</i>	3,20	3,84	5,973	31,611	,000
<i>item21</i>	1,86	3,56	42,288	234,803	,000
<i>item22</i>	3,94	4,00	0,048	1,465	,231*
<i>item23</i>	3,97	4,08	1,048	3,546	,065*
<i>item24</i>	2,83	4,12	24,322	185,336	,000
<i>item25</i>	4,89	4,72	,400	2,706	,105*
<i>item26</i>	2,83	4,40	36,012	190,375	,000
<i>item27</i>	4,83	4,80	,012	,077	,782*
<i>item28</i>	2,17	3,76	36,802	223,944	,000
<i>item29</i>	4,69	4,76	,080	,386	,537*
<i>item30</i>	2,83	4,56	43,719	227,794	,000
<i>item31</i>	1,86	4,68	116,208	693,013	,000
<i>item32</i>	3,77	3,92	,322	1,865	,177*
<i>item33</i>	3,69	3,80	,190	,816	,370*
<i>item34</i>	1,17	3,64	88,869	480,307	,000
<i>item35</i>	2,51	3,96	30,480	99,863	,000
<i>item36</i>	2,17	3,80	38,679	250,056	,000
<i>item37</i>	1,23	3,48	73,922	345,445	,000
<i>item38</i>	1,37	3,00	38,679	250,056	,000
<i>item39</i>	1,63	3,60	56,679	231,971	,000
<i>item40</i>	1,86	3,48	36,502	203,103	,000

*p>0.05

4.7. The environment in the schools where in-service teachers of English work

Table 16 provides information on the environment in the schools where in-service teachers of English work and tried to infuse technology into their classrooms.

The pre-service teachers who took part in the training and started to work at different schools were sent an online survey to find out the school environment. 6 of them were working at private schools, while 19 worked at public schools. As the table indicates, all of the classrooms are equipped with a computer and a projector, which is connected to the Internet provided by their schools. Some classes have more than one computer, ranging from 2-3. Moreover, all the public schools have at least one computer lab connected to the Internet. Regarding the use of labs outside the classroom, 36 percent of the participants (n= 9) stated that the students have access to the lab(s) when the lab is not occupied, which means that the majority of the students in other schools do not have the opportunity to benefit from the lab although it is available for use. To the question asked to determine whether the computers in the classrooms and in the lab(s) are up-to-date as regards hardware and software, the majority of the participants (68%, n= 17) claimed that they were very old, while 3 participants (12%) stated that they were somewhat new and 5 participants (20%) very new. Of the schools, only 6 of them, which are private, have a technician to deal with problems that may appear during the use of the lab(s) or the computer(s) in the classrooms. When

the participants are questioned about who helps them when problems appear, they stated that they sought help from their colleagues and/or computer teachers or tried to solve the problems by themselves. To the statement that my school is supportive in using computer technology, only 24 per cent (n= 6) of the participants agreed, while 76 percent (n=19) did not. In line with the previous statement, the majority of the participants (76%, n= 10) did not thought that their schools were supportive in purchasing instructional software.

Table 16. The environment in the in-service teachers' schools

variable	Mean or %	n	SD	Range
computer and projector in the classroom (%): Yes	100	25		
number of computers in the classroom	1,4	25	0,707	1-3
Internet in the classroom (%): Yes	100	25		
Computer lab(s) in the school (%): Yes	100	25		
Number of computer labs	1,2	25	,577	1-2
Number of computers in the lab(s)	25,44	25	5,73	15-40
Internet in the computer lab (%): Yes	100	25		
Students' access to the lab (%): Yes	36	9		
Computers are (%)				
very old	68%	17		
somewhat new	12%	3		
very new	20%	5		
Technicians available in the school (%): Yes	24	6		
Number of technicians in the school	1			0-1
When there is no technician (%)				
colleagues	56	14		
computer teacher	32	8		
by himself/herself	12	3		

Table 16 (Continued). The environment in the in-service teachers' schools

My school is supportive in using computer technology (%)		
strongly disagree	20	5
disagree	56	14
agree	12	3
strongly agree	12	3
		56
My school is supportive in purchasing instructional software		
strongly disagree	72	18
disagree	4	1
agree	12	3
strongly agree	12	3
by himself/herself	12	3

4.8. The journals and the interviews on how the participants infused technology and the emerging problems during their in-service teaching

Upon graduation from their department, all the participants were asked to keep a journal on when they infused technology into classroom, how they benefited from technology, and what kind of problems emerged while implementing it. However, of the 35 participants, 25 started to work as a teacher of English. Therefore, the analysis of the journals and the interviews were limited to the responses of these 25 participants. The first section, *the journals and the interviews on how the participants infused technology into their classroom*, analyzes through the emerging codes the responses provided in the participants' journals and the ones to the interviews held with the participants on Skype to find out how they transferred their knowledge of technology gained in the course into their own teaching interviewed on how they transferred their knowledge of technology gained in the course into their own classroom. The second section,

factors affecting technology integration, focuses on what factors influenced their use of computers in their classroom, how they continued to learn new technologies and how to apply them.

4.8.1. The journals and the interviews on how the participants infused technology

Figure 6 and Table 17 show the emerging tools and applications that the participants used in their language teaching practices, taking language skills into consideration. Some of the tools or websites used by the participants in their activities with their students can be used in more than one skill.

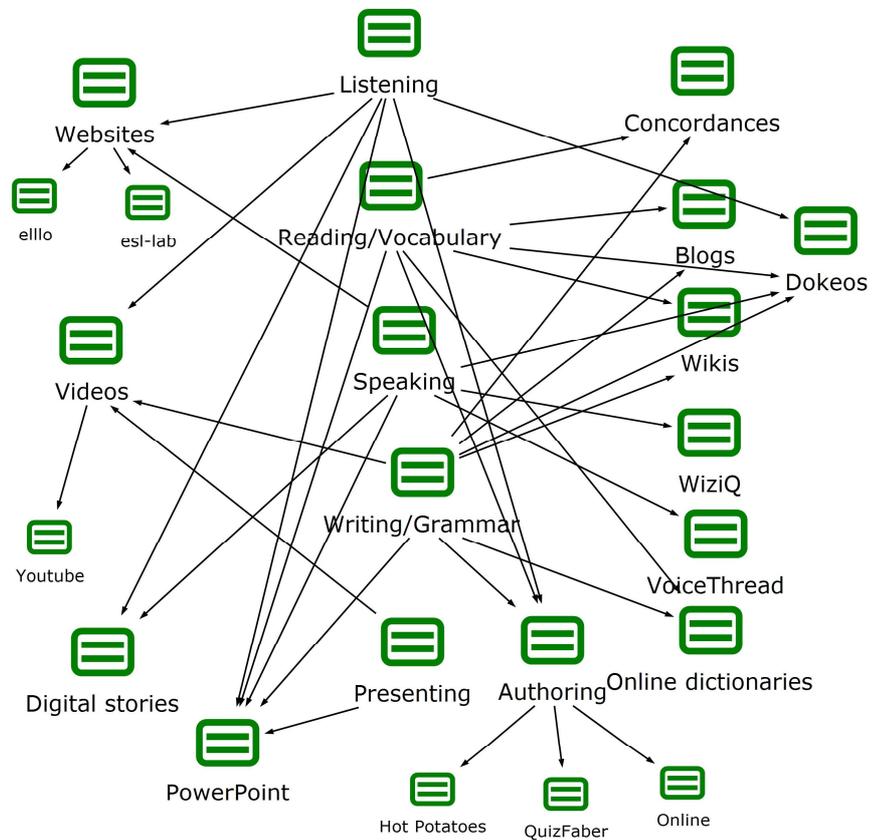


Figure 6. CALL-based tools used by the in-service language teachers

Table 17. Sample description of how in-service teacher candidates applied CALL-based tools into their English language activities

CALL-based tool	Skill/Content	Pedagogy
Listening websites (Ello and esl-lab) Videos (YouTube) Digital Story-telling Dokeos	<i>Listening/Speaking</i> (Audio files as well as the videos; course management)	The teacher, using <i>Dokeos</i> , published listening materials based on the audio files available on <i>Ello.org</i> and video materials on <i>YouTube</i> and asked the students in groups to create listening questions. Then, the other students tried to answer these questions. Another teacher assigned homework in which students had to prepare a story using their own photos through <i>Photo Story 3</i> , freely available Microsoft tools for educators.
Blogs and Wikis (Blogger and PBworks)	<i>Writing/Grammar</i> (review of grammatical mistakes)	The teacher prepared a list of his/her students' grammatical mistakes and published them on their blogs and wikis. Then, s/he asked them to find any mistakes and correct them. The students worked in pairs and groups.
WiziQ	<i>Listening/Speaking</i> (Recorded online classroom session)	The teacher created an online classroom, where s/he and his/her students had a synchronous communication using the webcams, microphone and the speakers available. The topic included a story discussed last week. The session was recorded and downloaded to be sent to the students. Then the students checked their pronunciation as well as their use of grammar and choice of vocabulary.
Concordance (COCA and Jukuu) Online Dictionaries (Cambridge, Macmillan and Longman Dictionary of Contemporary English)	<i>Reading and Writing/Grammar</i> (Word choice, sample sentences and worksheets)	The teacher prepared a worksheet including the highlighted vocabulary items for class for the following week, focusing on definitions and sample sentences, using online dictionaries such as <i>Cambridge and Longman Dictionary of Contemporary English</i> and concordance website such as <i>Jukuu</i> . Then, the students reviewed the materials for the coming lesson and as a homework activity; they were required to find the synonyms and antonyms of these words using these websites.
Authoring tools (Hot Potatoes, QuizFaber and QuizStar)	<i>Listening/Reading</i> (Recording a voice and creating an activity based on the recorded voice)	The teacher recorded his/her voice using a free audio editor, <i>AUDACITY</i> and created a multiple choice activity based on this recorded voice using <i>Hot Potatoes</i> . The students, then, answered the corresponding questions and got feedback, depending on the answers that they provided.
PowerPoint as a presentation and authoring tool	<i>Reading and Speaking, Writing/Grammar</i>	The teacher provided a summary of the grammatical items using the <i>PowerPoint</i> as a presentation tool. Another teacher used pictures and ideas as a brain storming activity for the speaking topic that day, how to overcome air pollution.

The journals kept by the participants clearly showed that the participants mainly focused on the tools that helped them have the students improve their listening and writing skills, together with grammar and that PowerPoint was the commonly used software for introducing grammatical structures as well as brainstorming activities to the classrooms.

In relation to the language skills, the journals and the interviews indicated that their integration of CALL-based materials particularly helped their students improve their listening and the use of grammatical structures, leading to better writing abilities. One of the participants put forward how these materials helped the students expressing that:

My students were not interested in writing a sentence, let alone a paragraph. However, when I introduced blogs and wikis to them and told them that we were going to use them throughout the semester, they got excited. In a way, it increased their motivation. Even students unwilling to write anything in Turkish tried to post something on my blog or theirs. I think seeing other students write something in English led the others to write. [PI:08, Ins, M, Int, Pri]

In line with what the previous participant expressed, another participant explained how he infused Wikis into his writing class saying that:

While I was thinking about how to integrate Wikis into my grammar classroom, I got a simple but useful idea. Without writing the students' names, I published mistakes frequently made by Turkish students as well as the ones made by my own students on a wiki page which I created in less than 5 minutes. I was surprised at how they were willing to correct the mistakes. [PI:24, Ins, F, Int, Pri]

The journals and the interviews also revealed that compared to the past, the participants had the opportunity to make the best of the freely available materials such as audio and video files on the Internet. One participant clearly illustrated this saying:

When I look back to the years at the secondary school, I can say that it was difficult if not impossible to find audio materials, let alone the video materials. I remember myself trying to find graded readings to improve my English. Through graded readings, learners are exposed to and encouraged to produce varied and creative language. I know very well that my students should be exposed to input as much as possible and thanks to the Internet and the authors publishing materials. I benefited from a lot using websites providing audio materials such as Ello and Esl-lab and many others to have my learners be exposed to varied language.
[PI: 05, Ins, F, Jrl, Pub]

Some of the participants also benefited from technology to prepare their students for the nation-wide exams held and help them enter the departments of the faculties of education where their students would be a teacher of a foreign language. One of the participants explained this in this way:

This semester I am teaching a language class where the students are willing to enter the teacher training departments of the universities. As you know, since the exam mainly focuses on the grammar, reading and vocabulary knowledge, I greatly benefited from concordance websites to create vocabulary worksheets for my students. I used concordance software to analyze the frequency of the words used in the previous exams and also encouraged my students to use these websites.
[PI:23, Ins, F, Int, Pub]

Another participant added that

To motivate my students practice what they learn in the classroom, I created multiple-choice exercises together with appropriate feedback based on the answers that they have provided, using the authoring software, QuizFaber. As the questions were parallel to the ones asked in

the language exam that they would take, the students were motivated and willing to answer the questions. [PI:18, Ins, M, Jrl, Pub]

The majority of the participants also expressed that they mostly used the software given together with their course books as CDs and DVDs, providing audio and video materials. Using these materials, they tried to increase their students' motivation as well as providing input.

Some of the participants used websites such as VoiceThread and WiziQ to help their students improve speaking in English. Regarding how the participants improved their students' speaking skill, one of the participants expressed that:

To me, the most difficult part of teaching speaking is to encourage my students to speak. Most of the time, they do not want to speak as they think their friends will laugh at them and considering the time allocated to the English lessons, it is not always possible to have each and every student speak in English. Then I decided to use VoiceThread website, similar to the way I once recorded my voice on a tape recorder and listened to it. At first, I asked my students to briefly introduce themselves recording their voice on the website. At the beginning, it was difficult to achieve it as most of them did not have their own computer at home. However, I managed to use the lab for that, scheduling it for my students. Now, my students frequently use it and they talk on the subject they choose. They love it. [PI:17, Ins, F, Int, Pri]

Another participant commented that

I was lucky as my school was involved in a Comenius project thanks to the great effort of the English teachers at my school. Together with my student, we created videos introducing some culturally important places of our country, using Photo Story 3 tool of Microsoft. My students created videos using pictures of these places and introduced them recording their voice. It was a good opportunity to practice speaking as well as their technical skills. Now they train other students to create similar or other projects in the other classes. [PI:13, Ins, M, Jrl, Pri]

Only 5 participants had the opportunity to deliver course materials through course management software such as Dokeos and Moodle as their school environment had been already using course management systems. One of these participants expressed that

While I was thinking that I would not be able to infuse technology although we had learnt a lot in the course, I was surprised to see that my school was already implementing tools for instructional purposes. My school had a Moodle system where teachers of English as well as other teachers were actively using it. [PI:01, Ins, F, Jrl, Pri]

However, the rest of the participants stated that they could not benefit from course management systems as the school environment and the students' access to the computer and to the Internet were very limited. They added that most of the students did not have a computer at home and the lab at their school was not available outside the classroom hours. Supporting this view, one of the participants voiced his disappointment:

I knew that most of the public schools were not equipped with the up-to-date technology. However, it was good to have a computer and a projector in my class and I felt happy because I thought I could implement what I have learnt. I was planning to use WiziQ, blogs and other tools. I later discovered that most of my students did not have a computer at home, not to mention the Internet. Instead of leading them to spend time in the Internet cafes, I tried to benefit from the computer and the projector in class providing listening and grammar activities, though in a limited way. [PI:04, Ins, F, Int, Pub]

Especially during the interviews, another important aspect of technology integration into classroom emerged: How the participants continued learning about new technologies. In other words, could the participants move further apart

from the CALL-based materials that they have covered during their training? As all we know and expect, technology changes every day and what we know today may be outdated or updated with new tools and information. Most of the participants stated that they tried to follow the journals on the integration of technology into classrooms and attended online sessions held by the famous online community of practice, Evo sessions. Some of the participants added that they got in touch with the instructor of the course on the possible uses of new technology and got suggestions through the website of the course. One of the participants clearly expressed that:

This semester, our classrooms have been equipped with boards called smart boards or interactive whiteboards. During the lab hours of the course I had taken before I graduated, I had the opportunity to learn about these boards although not in detail. I knew the basic things about these boards. The technicians setting up these boards just showed how it worked but nothing else. Then, I just read the tutorial in English and asked for help from the people on the Internet working with these boards and got an idea on how I could use them. I think we, English teachers, are in a good position as we all know English and can figure out how things work. That is the good part. [PI:24, Ins, M, Int, Pub]

Another participant added that:

I knew that what was new today would be old the next day. Therefore, I tried to follow the videos published by the website <http://www.teachertrainingvideos.com/>, a wonderful website that provides videos on several useful websites and tools on the Internet that can be used for instructional purposes. I learned a lot from these videos and suggested the website to my friends and colleagues. However, it is a pity that we do not have any similar website in Turkish. The teachers who do not know English cannot benefit from this website. I think ministry of Education can start a project website focusing on how new technology can be used in the classrooms. It is an easy and affordable way to inform all the teachers. [PI:07, Ins, F, Int, Pub]

To summarize, in light of the journals and the responses given in the interviews, the participants tried to infuse technology into their classrooms to help their students practice language skills, especially listening and writing skills, together with grammar in the classroom as well as outside the classroom. The materials supported by the integration of technology into the classroom aimed at making classroom activities more engaging and motivation for the students. Moreover, the participants in the study also found their own way to keep their knowledge up-to-date through various journals and the websites.

4.8.2. Factors affecting technology integration

The emerging issues as regards the infusion of technology into English language classes as stated by the participants have been coded as in Figure 7. The analysis of the journals kept, the responses given to the surveys on the school environment and the interviews hold with the participants indicated that the most influential problems or issues that hinder the infusion of CALL-based materials in language teaching and learning are the school environment, curriculum and the national exams. This finding is interesting in that generally the lack of technological tools at schools or support is considered to inhibit the use of technology. According to the participants, school policy plays an important role in their implementation of CALL-based materials. Almost all of the participants working at the public schools complained the lack of encouragement by the school administration and technical support, while the participants working at a private school mentioned time pressure and national exams as the factors that

hinders their use of computer in their teaching activities. One of the participants working at a public school stated that

I tried to implement what I have learnt in my previous computer courses and the elective course FLE 318. I tried to improve my students' listening and speaking skills through YouTube videos focusing on English teaching as I believe it is one of the most important skills. However, at a meeting, the school headmaster said, looking at me, the projectors were not for videos or films, but for presentations on subject matters, which shocked me. The same headmaster, when I suggested buying listening CDs and software for students, told me that there were other more important things they needed to consider. [PI:19, Ins, F, Int, Pub]

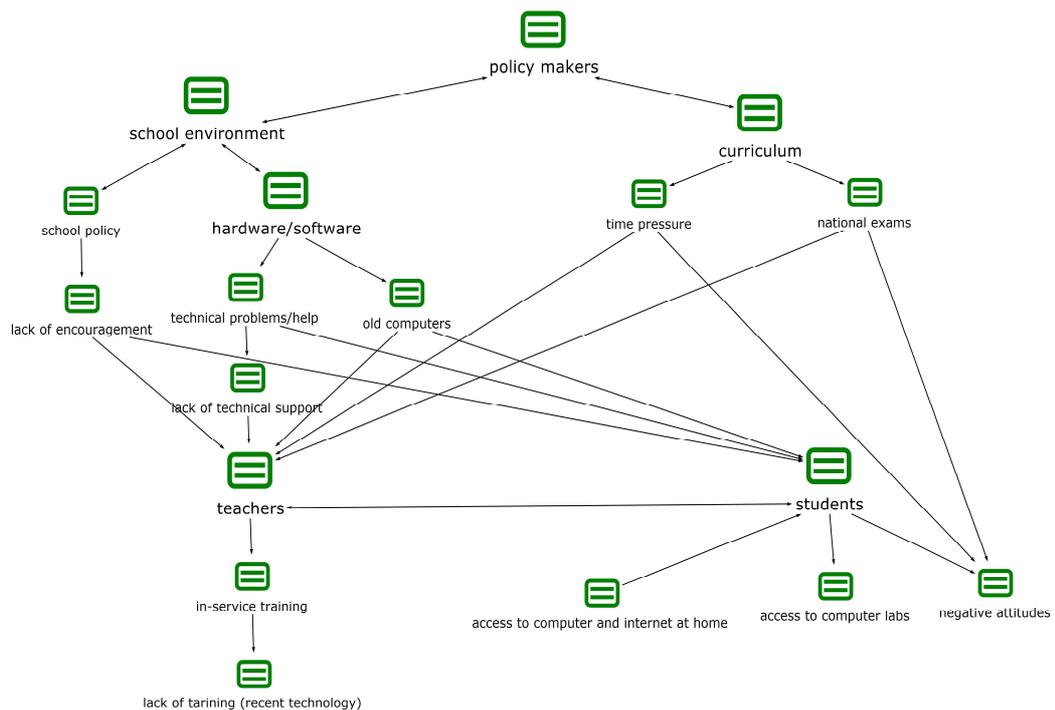


Figure 7. Factors affecting technology integration as perceived by the in-service teachers of English

Considering the school environment of the participants, it is clear that there is at least one computer, together with a projector, and a computer lab in each school although the computers available outnumber the ones in public schools. Most of the participants complain that students cannot have access to the lab(s) available in their school when the lab is not occupied. One of the participants says the following:

In our school, there are two computer labs available. However, the students cannot access to these labs outside the classroom. I once asked the headmaster about this and he told me that as long as I was responsible for any damage caused to the computers, and prevented the students from visiting illegal sites or playing games, he could allow the use of the labs. [PI:19, Ins, M, Int, Pub]

Related to the use of computer labs at school, another participant commented that

This semester I am teaching four classes. I only have the opportunity to use the lab for 7th grade students because it is only available for that time. Naturally, I cannot use the lab for my other classes and students sometimes complain about that. Unfortunately, there is no equal use of the lab. [PI:06, Ins, F, Int, Pub]

When the participants were asked for whether the computers in the lab(s) are enough for the students to use, they responded that although students cannot work alone on a single computer, the participants compensated for this problem through pair and group work. Interestingly, half of the participants did not consider this a problem, but an opportunity to help students cooperate and collaborate each other. One of the participants working at a private school stated that

In our lab, there are not enough computers for each student to work with a single computer. However, I do not see this as a problem, see it as an opportunity. My students work in groups of 2 or three on a single computer and they also learn from each other, which is a nice opportunity. [PI:10, Ins, F, Int, Pub]

Six of the participants who were working at private schools did not complain about the technical support as there was a technician available in their school. However, the rest of the participants stated that they could not use the computers when there was a technical problem with it. These participants tried to solve the problems by themselves and/or asking their colleagues and computer teachers for help. As for the training provided by the school or the Ministry of Education on technology integration, most participants were not contented and complained that there was not any training provided, especially the recent developments in technology and the new tools available to them.

Regarding the role of the curriculum and the national exams, the participants complained that they had to ignore some of the skills that needed to be practiced such as speaking and listening, as the national exams do not include questions on this. This implies that there is discrepancy between the curriculum conducted in language classrooms and the national exams, inhibiting a variety of CALL-based materials to be put into effect into the classrooms. One of the participants working with 8th grade students in a public school said that

My students are 8th grade and in the exam do not include any listening, writing or speaking questions. Therefore, most of the time, I used PowerPoint Presentations to review grammatical topics. I tried to include

listening practice, but most students did not like it and they said “The exam does not include listening”. [PI:23, Ins, F, Int, Pub]

Another participant working with 8th grade students at a private school commented on the same issue in a different way

The school I am working and the head of the English department encourages practicing all the skills as well as practice towards the exam. We have a content management system, which includes exercises on grammar, reading and writing. We are collaborating with other teachers of English and creating activities using authoring software to help students study towards the exam as well as practicing the other skills. All of the students have a computer, some have IPADs, and access to the Internet both at the school and at home. Even some have blogs and wiki pages, writing on their daily life in English. [PI:24, Ins, F, Int, Pri]

The comments provided by different participants at working at private and public schools lead to the fact that there are differences among the students and the schools where the participants work. Private schools seem to have better financial and physical conditions, be more encouraging and try to help their English language teachers use technology efficiently and effectively through technical support and resources, while most of the public schools do not have the same opportunities. Regarding this, one of the participants working at a public school reported that

I’ve created a blog for my students to provide links to useful websites and a place to help them practice writing by encouraging them to leave comments. However, it did not work for some of the students, as they did not have a computer or access to the Internet at home. I talked to the headmaster about it and allowed these students to use the computer lab outside the class for their blog and their homework.
[PI:14, Ins, M, Int, Pub]

To summarize, the factors that play an important role in integrating classrooms into their classes as stated by the participants mainly include the school policy, hardware, and software available especially for students and the equal use of the computer labs, the time pressure that the curriculum imposes, and the discrepancy between the curriculum and national exams. However, it is important to note that there are both physical condition and attitudes differences between the public and the private schools where the participants work.

CHAPTER V

DISCUSSION & CONCLUSION

5.0 Presentation

In this chapter, the aim of the research, together with the findings of the study, will be summarized and discussed. The previous research findings which are and are not in alignment with the current findings will also be explored. Finally, implications for practice and further research in relation to the aim and the findings of the current study will be suggested.

5.1 Summary of the Study

The study aimed to examine the impact of CALL training on in-service language teachers' use of CALL-based activities by finding out how they transfer their knowledge of technology gained in the training into their own classroom, what factors influence their use of CALL in their classroom and how they can be assisted in continuing learning about new technologies and applying new activities, through the following research questions:

1. How does in-service EFL teachers' gained knowledge in their pre-service CALL training impact their teaching?
2. What are the factors that may affect EFL teachers' use of CALL tools in their teaching contexts?

Taking into the aims and the research questions of the study into consideration, the following aspects were investigated:

1. The participants' perceived computer knowledge before the training
2. The content of the lesson plans created for micro and macro teaching during and after the training
3. The content of the critical reviews written during the training
4. The journals written during the study on several aspects of training
5. The participants' perceived computer knowledge after the study
6. The school environment in the pre-service teachers of English
7. The journals and the interviews on how the participants infused technology and the emerging issues during their in-service teaching

The participants included 35 pre-service English as a Foreign Language (EFL) teachers who took an undergraduate-level elective CALL course (FLE318) offered during the 2008-2009 academic year in the Department of Foreign Language Education at Middle East Technical University and 25 of these participants who started teaching English during the Fall semester in the academic year 2009-2010 at several private and state institutions. The training lasted for 14 weeks, 5 hours each week. Considering the amount of the information that needs to be covered in the course, a two-hour lab class allowing structured practice was held for students, especially who were not comfortable with technology. While investigating the above aspects of the study, both quantitative and qualitative research methods were applied. That is, these two

perspectives or traditions have been combined into the study. Moreover, as the contextual conditions play an important role and highly relevant to the focus of the research questions, the current study can be considered as an action research case study. Over the course of the semester the participants were required to write two critical reviews of technology in which they explored the Internet to find some tool, technology or product that they thought it might be useful or not useful (Appendices E & F). Throughout the study and after the participants started teaching, they were asked to keep a journal on their own blogs regarding what they learned and to chart their progress, thoughts and feelings about the training, how it affected their choice of CALL-based materials, when they used these materials and when did not and the reasons for their decisions on the use of technology. Towards the end of the semester, the participants were also required to write a lesson plan that includes any technological tool that they considered to be helpful in achieving their lesson plan objectives. The participants' lesson plans during their micro and macro teaching at the schools were analyzed to figure out how they benefited from CALL-based materials in their practice teaching. When the participants graduated and started to teach, they were asked to keep a journal. They were asked to note down what worked and what did not when they used CALL-based materials and the reasons for their decisions on the use of technology. Regarding the technological resources available to them and the school environment, the participants were provided with another questionnaire, based on Hong's (2009, p. 144) survey on technology environment in the school which includes 16 items (Appendix C). Moreover, the

researcher also interviewed 25 participants, as ten of them did not opt for any teaching position, on their use of integrating technology into their teaching using Skype. The interviews were semi structured and the role of the questions was just to initiate the discussion. The content analyses of the journals kept by the participants during and after the training, the lesson plans of micro and macro teaching, the questionnaires given to the participants to determine their perceived computer knowledge, the interview sessions held with the participants' on their practices of infusing technology to their classrooms and the school environment where they work provided invaluable insights for the technology implementation practices in Turkey and shed light on the problems emerged.

5.2. Results and Discussion

Research question 1

How does in-service EFL teachers' gained knowledge in their pre-service CALL training impact their teaching?

Considering the findings provided in the data analysis chapter, together with what participants' responses on their journals and the interviews, it is clear that the training provided to the participants helped them infuse a variety of CALL-based materials and tools into their classroom practices. The training aimed at both providing a link between SLA theories as well as optimal conditions for language learning and building upon what the participants have learned in their

previous computer courses and knowledge. A knowledge of how-to-use a computer does not necessarily imply ability in knowing how to infuse CALL-based materials into language classes appropriately and effectively. In other words, technology training which merely engage language teachers in gaining ICT skills in purely technical issues do not help develop their ability in applying technology in language teaching effectively and appropriately. There is a need for training with a certain degree of content knowledge such as the optimal conditions for language learning and SLA theories that parallel as closely to the appropriate choice of technology as possible. Therefore, the training provided in this way helped them combine language teaching activities with computer technologies, focusing on what works and what does not for their language classrooms.

Data collected at the very beginning of the study on the participants' perceived computer and technology integration knowledge indicated that the participants do not consider themselves competent especially in planning and designing learning environments and experiences. However, after the training was conducted, there were statistically significant differences in their perceived computer knowledge and technology integration. As the data were related to their perceptions, it was not clear whether this change in their perceptions would lead to better integration of technology into their classroom. The analyses of the journals and the interviews, however, showed that the participants tried to include a variety of tools covered during the training and the ones available on

the Internet, based on their own evaluation. This finding is in alignment with the one suggested by Kessler and Plakans (2008), showing that teachers' positive sense of competence can lead to the use of technology in the classroom more than those who have lower competence level.

The training especially allowed the participants to infuse technology into their classrooms that helped improve their students' language skills, especially listening, and writing skills, together with English grammar. This can be attributed to the fact that teachers of English as well as EFL students can easily access the rich environment of the Internet and the websites allowing easy publishing of materials especially audio and video files. The participants also helped their students improve their writing skill, which is generally found to be the most difficult ability after listening by the students through, blogs and wikis. Most of the participants benefited from blogs and wikis as they thought these tools would encourage their students to practice writing as well as to share their opinions and reflect on what they had learnt. These tools also functioned as an information sharing place that led to collaborative writing. As for speaking, some of the participants benefited from web-based tools such as WiziQ and VoiceThread and they were content with the results as using these tools found a way to have some unwilling students speak in class due to several reasons. However, factors such as the lack of sufficient technology and students' not being able to access to the Internet prevented the other participants to use these tools, which will be discussed in the next section.

With everything considered, it can be put forward that despite several problems and factors, the majority of the teachers integrated CALL-based materials into their classroom activities. Possible explanations for this, as also stated by Thieman (2008), include the training provided to the participants, focusing on the link between optimal language learning conditions and the use of technology for instructional purposes, as well as building on the participants' previous knowledge that greatly benefited from the previous computer courses.

Research question 2

What are the factors that may affect EFL teachers' use of CALL tools in their teaching contexts?

The analyses of the journals kept, the responses given to the surveys on the school environment and the interviews held with the participants indicated that the most paramount factors or issues that hinder the infusion of CALL-based materials in language teaching and learning are the school environment, curriculum, and the national exams. This finding is interesting in that generally the lack of technological tools at schools or support is considered to be the main factors that inhibit the use of technology (Gillespie, 2006; Smerdon et al., 2000; Egbert, Paulus, & Namamichi, 2002; Bingimlas, 2009; Atal & Usluel, 2011). However, as the Table 16 shows, the classrooms of the schools where the participants worked were equipped with a computer and a projector, which is

connected to the Internet, some of which had more than one computer ranging from 2 to three computers.

Another factor that plays an important role in the implementation of CALL-based materials is the school policy. Almost of the participants who worked at the public schools mentioned the lack of encouragement by the school administration and technical support. However, the participants working at a private school complained more about time pressure and national exams. This can be attributed to the current university placement exam. In Turkey, the students willing to enter the universities as undergraduates have to take a high-stake examination held nationwide by the Evaluation, Selection, and Placement Center (ÖSYM) and are responsible for the course contents during their four-year education. However, for some reason, although English is included in the curriculum, the exam does not cover any items on English. In alignment with the findings of Karakaya (2010), this situation causes a great difficulty for some of the participants as the students were unwilling to participate in the lesson however interactive or enriched with the technological tools available.

5.3. Conclusion

This study investigated the impact of CALL training on in-service language teachers' use of CALL-based activities in their teaching contexts and what factors influence their use of these activities in their classroom. As such, the following research questions were investigated.

1. How does in-service EFL teachers' gained knowledge in their pre-service CALL training impact their teaching?
2. What are the factors that may affect EFL teachers' use of CALL tools in their teaching contexts?

First of all, this study showed that before the study was conducted, pre-service English language teachers considered themselves competent in terms of productivity and professional practice. These participants agreed on the following items of the scale the scale which was developed by Çoklar and Odabaşı (2009), based on the NETS•T standards published in 2000.:

Item 22. To become a more effective teacher, I can find information on the Internet.

Item 23. I can share ideas with experts and colleagues on an online basis to develop my teaching skills.

Item 25. To become a more productive teacher, I can use software (such as Microsoft Word, Excel, and PowerPoint) that will increase the quality of instructional applications.

Item 27. In order to have cooperation among my students, their parents, and my colleagues, I can use such communication tools as e-mail, forums, and discussion groups.

Item 29. I can benefit from Internet services to support the learning process during the education program.

Item 32. In order to increase student learning, I can use technological sources for the establishment of communication with parents.

Item 33. I can use technological devices to send the results of any evaluation of the teaching process to students and their parents.

In other words, they thought that they were competent in using computers and the Internet for communication and carrying out the tasks of the course requirements in their department such as essay writing and preparing a presentation. Previously they had enrolled in two instructional technology courses and in these courses, they were trained to do any work via word-processing and presentation software as well as communicating through e-mails and discussion forums. However, their technology knowledge was not in the expected level especially in planning and designing learning environments and experiences. However, after the training is conducted, the participants perceived themselves more competent in computer knowledge and technology integration and their perceived knowledge have statistically improved on the following factors:

1. Technology operations and concepts
2. Planning and designing learning environments and experiences
3. Assessment and evaluation
4. Productivity and professional practice (insignificant difference on some items)
5. Social, ethical, legal, and human issues
6. Planning of teaching according to individual differences and special needs

Increased perceived knowledge help teachers feel more willing to benefit from technology in their classes as put forward by Kessler and Plakans (2008), making it clear that higher self-perception of competence positively affects human behavior, thus leading to feel more willing to do.

Considering the technology environment in the schools where the participants started teaching upon graduation, the analyses of the surveys and the interviews indicated that all the classrooms were equipped with at least a computer and a projector, which is connected to the Internet although private schools had more access to various technologies. The majority of the participants working at public schools had limited access to the lab and the Internet compared to the ones working at the private schools, which implies that the public schools are at a disadvantage (Top, 2007).

In relation to the language skills, the study showed that the in-service language teachers used a variety of tools such as WiziQ and Wikis to help their students to improve their listening and writing skills, together with grammar. The in-service language teachers especially valued CALL-based materials as they observed that these tools helped their students improve their listening and the writing abilities through online and in-class activities based on the materials available through the Internet such as audio and video files. As perceived by the in-service language teachers, the study also showed that the materials supported by the integration of

technology into the classroom helped make classroom activities more engaging and motivation for the students.

Regarding the discussion on the factors that affect EFL teachers' use of CALL tools in their teaching contexts, the findings showed that school policy, the available hardware and software, the use of the computer labs, time constraints and the discrepancy between the curriculum and national exams were the main factors that play an important role in technology integration.

As a final note, having language teachers implement technology successfully resides in the importance given to pre-service teaching given by the faculties of education, as well as to the implementation of the desired changes in the undergraduate curriculum and in-service training to be given by the Ministry of Education and the Higher Education Council. However, they also need to be aware of that, as stated by Hocklyon on a debate with Alan Waters (Waters & Hockly, 2012):

Technology is not a magic bullet. ... Depending on context and how it's used, technology can be effective or not, just like any other teaching tool.

Providing the necessary tools and access to technology, combined with constant support and training, language teachers will be more willing to integrate technology into their teaching contexts. As the journals and the interviews analyzed in this study show, if pre-service teacher candidates are provided with

the opportunity to practice infusing technology into their subject matter and the environment where they work support them, they can manage in spite of the problems or difficulties they face or may do. The important point is that they should be given the opportunity to do as Mercer (2012, p. 28) states:

“..... The overwhelming trend is to also accept the capacity of every learner to ‘grow’ and develop their abilities, possibly beyond their expectations, given the right context, environmental support, and a personal willingness to invest time and effort and engage in repeated practice”

5.4. Pedagogical implications for teacher training on CALL-based materials

In light of the data analysis and the discussion above, the following implications for teaching can be presented:

1. A course that covers integration of ICT in language teaching and learning in subject matter should be included in the pre-service English teacher education curriculum in Turkey. This course should be offered in the 6th semester of the candidates’ undergraduate curriculum as most of the methodology and approaches courses on English language teaching will have been covered by that time. However, before introducing teacher candidates to the integration of technology into classrooms, they learners should be provided with the necessary skills required to use the computers properly and comfortably, which will ensure that learners

will be freed from computer anxiety and negative attitudes towards computers. This can be achieved through the computer courses focusing on the basic skills of Information and communication and the Instructional Technologies and Material Development.

2. This course should build on the previous courses and *emphasize subject specific technology*, as stated by (Lei, 2009). In other words, the course should expose teacher candidates to a variety of technologies (Lei, 2009), taking into consideration English language teaching, methodology, SLA theories and optimal conditions for language learning. Use of instructional technology should be ongoing, rather than being treated as a part of the curriculum. This can be achieved by the active involvement of the all the staff that are in the department (Berger & Thomas, 2011). The instructors of the course offering methodology courses on English language teaching and learning should encourage the use of technology in their classrooms and be a model for exemplary practice (Larose, 2009; Meagher, Özgün-Koca, & Edwards, 2011).
3. Teacher candidates should be aware of the fact that technology should be used provided that it will facilitate meaningful classroom activities, rather than an alternative to classroom teaching. They need to understand how learning technologies work and can help us to improve learning and teaching (Collins & Halversont, 2010). The key point is not the use of

technology or a specific technological tool, but how it can be used to improve language learning and teaching. As Watson (2010, p.162) states, “computers are supposed to be tools to help us to think, not prevent us from thinking”.

4. Teacher candidates and in-service teachers of English who did not participate in any training on CALL and/or do not feel competent in infusing technology into the classroom should be exposed to face to face or online training. Through online trainings, if conducted properly and effectively, many more teachers of English can be trained, which could be more practical and cost-effective. This can be done through a dedicated website for all teachers, not just English teachers, providing tutorial videos and forums for common problems and questions.

5.5. Suggestions for Further research

The participants in the study were not selected randomly and a convenience sample was used. Therefore, the study can be repeated with a larger number of participants to decrease the likelihood that the results obtained were a one-time occurrence. Moreover, the training did not include some of the tools like *Second Life* and mobile learning, which the further studies can also deal with. Moreover, there were some differences in the responses provided especially to the school environment as some of the participants worked at private schools. Therefore, future research can also focus on how the private and public schools

are different in terms of technology infusion into the language classrooms. Moreover, the researcher could not have the opportunity to observe and record the sessions where the participants infused technology in their language teaching and learning activities, how the students reacted towards these materials. Therefore, the data analysis relied on the participants' self-report through journals and lesson plans. Future research can also compare what the participants reported in their journals with the recordings of the classroom practices, which will lead to a more accurate portrayal of technology integration into the classroom.

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APPENDICES

APPENDIX A: Consent to participate in research

Project Name: The impact of CALL instruction on English language teachers' use of CALL-based activities

Introduction

You are invited to consider participating in this research study. The study aims to examine the impact of CALL training on language teachers' use of CALL-based activities. The decision to participate or not is yours. If you decide to participate, please sign and date the last line of this form.

Explanation of the study

The researcher will be looking at how the training you will be provided with will affect your transferring your knowledge of technology g into your own classroom, what factors influence your use of CALL in classroom and how you can be assisted in continuing learning about new technologies and applying new activities. About 40 students enrolled in FLE 318 will participate in the study. As part of the study, the materials that you have submitted as requirements of the course will be analyzed and you will be contacted upon graduation and starting to teach English. You will be also asked to when and how you have used technology in your classroom. Finally, you will be interviewed during the course and upon graduation.

Confidentiality

All of the information collected will be confidential and will only be used for research purposes. This means that your identity will be anonymous; in other words, no one except the researcher will know your name. Whenever the data from this study are published, your name will not be used. The data will be stored on a computer, and only the researcher will have access to it.

Your participation

Participating in this study is strictly voluntary. Your decision to participate will in no way affect your grade. If at any point you change your mind and no longer want to participate, you can tell the researcher. You will not be paid for participating in this study. If you have any questions about the research, you can contact the researcher, whose contact details are provided below.

Researcher's statement

I have fully explained this study to the student. I have discussed the activities and have answered all of the questions that the student asked.

Researcher Ferit KILIÇKAYA Research Assistant Tel: 0312 210 3628 E-mail: ferit.kilickaya@gmail.com	Middle East Technical University Faculty of Education Department of Foreign Language Education Z-14
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Signature of researcher _____

Date: _____

Student's consent

I have read the information provided in this Informed Consent Form. All my questions were answered to my satisfaction. I voluntarily agree to participate in this study.

Your signature _____

Date: _____

APPENDIX B: The survey on the participants' perceived computer knowledge*

		(1) Strongly Disagree, (2) Disagree, (3) Neutral, (4) Agree, (5) Strongly Agree				
		1	2	3	4	5
A. Technology Operations and Concepts						
1.	I can explain how technological devices operate.					
2.	I can use technological devices in different ways.					
3.	I can define the technological devices found in our faculty.					
4.	I can do basic things regarding computer technologies.					
5.	I can explain general concepts related to computer technology.					
6.	I can use technological devices effectively.					
B. Planning and Designing Learning Environments and Experiences						
7.	I can choose the technology appropriate to the teaching process by evaluating the present technological sources.					
8.	I can state whether the electronic sources are suitable for the planning of learning activities.					
9.	I can inform students about the benefits of using different technological devices in the process of teaching.					
10.	I can use sources on the Internet in order to prepare different learning activities and teaching strategies.					
11.	I can make use of research findings about technology use for the planning of educational environments.					
12.	I can determine whether technological sources are suitable for student use.					
13.	I can explain how technological sources should be used to increase the effectiveness of education.					
14.	I can shape the teaching process in line with new educational technologies.					
C. Assessment and Evaluation						
15.	In order to assess students in different respects, I can form an evaluation procedure that consists of various measurement techniques.					
16.	I can plan teaching strategies that require the use of different technological sources.					
17.	I can plan learning activities based on technology use in order for students to yield creative products					
18.	I can follow technology-based measurement and evaluation strategies which will help evaluate the performance of students via such tools as portfolio and e-mail.					
19.	I can use technology for the purpose of developing appropriate strategies to solve the real life problems.					
20.	I can use technological tools to process and report all kinds of data related to the teaching process.					
21.	I can help students find their own measurement tools to evaluate their own learning processes.					
		1	2	3	4	5
D. Productivity and Professional Practice						
22.	To become a more effective teacher, I can find information on the Internet.					

23.	I can share ideas with experts and colleagues on an online basis to develop my teaching skills.						
24.	To become a more effective teacher, I can evaluate myself in terms of my improvement in technology use.						
25.	To become a more productive teacher, I can use software (such as Microsoft Word, Excel, PowerPoint) that will increase the quality of instructional applications.						
26.	I can explain how I will benefit from technology to keep lifelong learning.						
27.	In order to have cooperation among my students, their parents, and my colleagues, I can use such communication tools as e-mail, forums, and discussion groups.						
28.	To become a more effective teacher, I always develop myself in terms of new technological tools.						
29.	I can benefit from Internet services to support the learning process during the education program.						
30.	I can use technology in my own teaching process by observing how it is used in the teaching process.						
31.	I can explain the effects of the use of such electronic environments as computers and the Internet on social life.						
32.	In order to increase student learning, I can use technological sources for the establishment of communication with parents.						
33.	I can use technological devices to send the results of any evaluation of the teaching process to students and their parents.						
E. Social, Ethical, Legal, and Human Issues							
34.	I can state the legal issues about technology use.						
35.	I can explain the important issues related to the copyright of any technological system.						
36.	I can explain the issues related to the equal use of technology.						
37.	I can explain the health-related issues that could be caused by technology use in schools.						
38.	I can explain the safety precautions to be taken for a safer use of technology in schools.						
F. Planning of Teaching According to Individual Differences and Special Needs							
39.	I can make a plan that will allow all the students to use the technological sources.						
40.	I can prepare lesson plans that will allow using technology to meet the different needs of students.						
41.	With the help of technology, I can design learning environments for those who need special education due to their loss of hearing or their defect of vision.						

*This scale based on the NETS•T standards in 2000 has been developed and validated by Çoklar and Odabaşı (2009).

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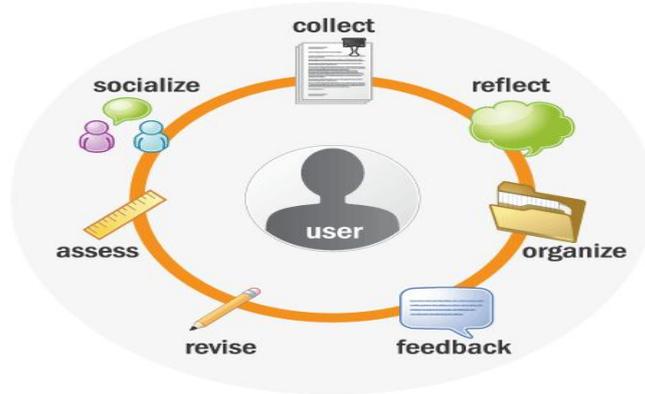
APPENDIX C: The school atmosphere (Online survey)*

	Yes	No
1. Do you have a computer and projector in your classroom?		
2. If 'Yes' in Item 1, how many computers do you have in the classroom?	
3. If 'Yes' in Item 1, is (are) the computer(s) in your classroom connected to the Internet?	Yes	No
4. Do you have a computer lab in your school?	Yes	No
5. If 'Yes' in Item 4, how many computer labs in your school?	
6. If 'Yes' in Item 4, approximately how many computers are in the computer lab(s)?	
7. If 'Yes' in Item 4, are the computers in the lab connected to the Internet?	Yes	No
8. If 'Yes' in Item 4, can students access to the lab when the lab is not occupied?	Yes	No
9. Are the computers in your school up-to-date?		
a) Very old b) Somewhat Old c) Somewhat new d) Very new		
10. Is there a technician in your school who can help you when you encounter technical problems using computers?	Yes	No
11. If 'Yes' in Item 10, how many technicians are available in the school?	
12. If 'No' in Item 10, who helps you when you have technical problems?		
13. My school is supportive in using computer technology in the classroom.		
a) Strongly disagree b) Disagree c) Agree d) Strongly Agree		
14. My school is supportive in purchasing instructional software resources for language teachers.		
a) Strongly disagree b) Disagree c) Agree d) Strongly Agree		
15. If you would like to add anything, please use this space.		

*This questionnaire is based on the questionnaire prepared by Hong (2009, p. 144).

Hong, K. H. (2009). *L2 teachers' experience of CALL technology education and the use of computer technology in the classroom: The case of Franklin county, Ohio*. Retrieved from <http://etd.ohiolink.edu/send-pdf.cgi/Hong%20Kwang%20Hee.pdf?osu1243917839>

APPENDIX D: FLE 318 Course outline



Instructor: Ferit KILIÇKAYA	Office: Z 14
	Office hours: Friday, 13.30-14.40 and by appointment
Phone number: 210-3628	E-mail: kilickay@metu.edu.tr
Course time and location	Friday, 14.40-17.15, Z18A Lab hours: TBA (Two hours)

Overview of the Course:

The purpose of this course is to explore the English language teaching-specific technological tools which can be used to support teaching and learning activities, focusing on the conditions for optimal language learning. It is also aimed at helping teachers make meaningful connections between technology and teaching. The technologies utilized in this course will range from the most basic tools such as the Discussion Boards, Internet chat, video conferencing and Web 2.0 tools such as Wikis, Blogs. As we

become familiar with these tools, we'll use them to create practical activities/lessons. Over the course of the semester, you will read a number of articles pertaining to the use of these technologies in language classrooms. These articles will range from mostly theoretical to purely practical in nature. However, it is important to note that this course is not meant to serve as a foundation in the theoretical foundations of CALL, CMC, or any other acronym related to technology in the classroom. The class discussions and assignments will reflect a more practical philosophy.

The objectives

- Understand the general operating principles of electronic technologies, hardware and software.
- Learn vocabulary related to computer-assisted second and foreign language learning.
- Experiment with and evaluate current computer applications in second and foreign language learning.
- Learn how to design and integrate computer work into second and foreign language courses.
- Understand the theories and principles that form CALL and conditions for optimal language learning environments
- Review and evaluate current research in CALL

Evaluation:

To successfully complete this course you must turn in all major assignments, come to class prepared to *discuss* the assigned materials, attend class, and *actively participate* in the in-class workshops and on-line discussions.

Writing Assignments/Other Responsibilities

Assignments/Other Responsibilities	
Critical Reviews of Technology 1	15 pts.
Critical Reviews of Technology 2	15 pts.
Presentation	30 pts.
Lesson Plan (on any topic you wish)	30 pts
Participation/Attendance	10
Total points possible	100 points

Essay Format:

All essays, critiques, and/or units must utilize the American Psychological Association (APA) or Modern Languages Association (MLA) manuscript format and be documented accordingly. All essays must be typed and double-spaced (12-point type, 1-inch margins). As you do revisions of your papers, please give each draft a new file name, so that the old version is not destroyed on your computer. The format for “essays” appearing online will be discussed later in the course.

Course Policies:

Attendance: “Attendance” is required. This course will include a great percentage of the work during our scheduled meeting times, so missing a class means you are missing part of the required work for the course. If you are going to be absent, please let me know in advance, if possible.

Tardiness: While it is acceptable to be occasionally late, *habitual tardiness* or cases of *extreme tardiness* is simply rude—don’t do it. This is especially true since you will often work with a partner during class time.

Classroom Interaction: Come to class prepared (do the readings!), cooperate with your classmates in small-group activities, cooperate with me by coming to class prepared to ask questions, both in-class and during conferences, and use all the components of this course to expand your skills and abilities related to CMC. .

Weekly Schedule for the semester

IMPORTANT!! Readings should be read for the day that they are listed.

DATE	CLASSROOM ACTIVITIES and ASSIGNMENTS
Oct. 6	General introduction to the course From chalk to chip Introduction to CALL http://www.stanford.edu/~efs/callcourse/CALL1.htm An Overview
Oct. 13	An Overview of SLA Theories and Optimal Conditions for Language Learning http://www.veramenezes.com/slatheory.pdf CALL and SLA Theories: The relationship Technology-enhanced language learning/Computer-assisted language learning Social, Ethical and Human Issues

Oct. 20	Computer Mediated Communication (CMC) Asynchronous tools VoiceThread Message boards
Oct. 27	Computer Mediated Communication (CMC) Synchronous tools Skype WiziQ
Nov. 3	Blogs and Wikis in language teaching
Nov. 10	Authoring Software QuizFaber and Hot-Potatoes ::: Due: 1 st critical review of technology::: (You will submit it online through the website) no later than 24.00. (:
Nov. 17	Concordance: Uses as text analysis and for worksheets
Nov. 24	Online Quiz, Flashcard Creation Websites Videos Online and Offline Digital story telling
Dec. 1	PowerPoint as authoring software
Dec. 15	Course Management Systems: Moodle and Dokeos
Dec. 22	What a teacher of English should know about computers? Journals and Online Communities Classroom Discussion ::: Due:2 nd critical review of technology::: (You will submit it online through the website) no later than 24.00. (:
Final Date: Due: Lesson Plans	

Required Texts

Dudeny, G. & Hockly, N. (2007). *How to teach English with technology*. London: Longman.

Chapelle, C. A., & Jamieson, J. (2008). *Tips for teaching with CALL: Practical approaches to computer-assisted language learning*. New York: Pearson Education.

Richardson, W. (2009). *Blogs, wikis, podcasts and other powerful web tools for classrooms* (2nd ed.). USA: Corwin Press.

Articles and journals on Technology and Language Learning

A Topical Bibliography on Computer-Assisted Language Learning (CALL)

<http://www.metu.edu.tr/~kilickay/documents/bibli.html>

List of Journals on ELT and technology

<http://www.metu.edu.tr/~kilickay/documents/newpage.html>

Australasian Journal of Educational Technology	http://www.ascilite.org.au/ajet/ajet.html
CALL-EJ Online	http://www.clec.ritsumei.ac.jp/callejonline
CALICO Journal	http://www.calico.org
Language Learning and Technology	http://llt.msu.edu
TESL-EJ	http://www-writing.berkeley.edu/tesl-ej
ReCALL Journal	http://www.eurocall.org/ecpubs.htm
Teaching English with technology	http://www.iatefl.org.pl/call/callnl.htm

Other required materials:

- Storage for your electronic files— a flash disk or portable hard disk
- An e-mail account, preferably Gmail account.
- A spirit of adventure and a willingness to experience both joys and disasters!

Further Reading

- Dudney, G. (2000). *The Internet and the language classroom: A practical guide for teachers*. UK: CUP.
- AlKahtani, S. (1999). Teaching ESL reading using computers. *The Internet TESL Journal*, 5(11). Retrieved from <http://iteslj.org/Techniques/AlKahtani-ComputerReading/>.
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- Cheng, R., & Summers, R. (2008). Video streaming: iMovie and Movie Maker. In T. Erben, & Sarieva, I. (Eds.), *CALLing all foreign language teachers: Computer-Assisted language learning in the classroom* (pp. 95-109). NY: Eye On Education. Retrieved from <http://www.robertsummers.net/PDF/Cheng%20and%20Summers%202007.pdf>
- Cziko, G. A., & Park, S. (2003). Internet audio communication for second language learning: A comparative review of six programs. *Language Learning & Technology*, 7(1), 15-27. Retrieved from
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- Erben, T., & Sarieva, I. (Eds.) (2008). *CALLing all foreign language teachers: Computer-Assisted language learning in the classroom*. NY: Eye on Education.
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- Godwin-Jones, B. (2001). Tools and trends in corpora use for teaching and learning. *Language Learning & Technology*, 5(3), 7-12.
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- Kılıçkaya, F. (2007a). Website review: Word Champ: Learn Language Faster. *Educational Technology & Society*, 10(4), 298-299. Retrieved from http://www.ifets.info/journals/10_4/26.pdf
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- Ward, J. M. (2004). Blog Assisted Language Learning (BALL): Push button publishing for the pupils. *TEFL Web Journal*, 3(1). Retrieved from http://www.teflweb-j.org/v3n1/blog_ward.pdf.

APPENDIX F: Critical review of technology

Over the course of the semester you will be required to write two Critical Reviews of Technology. These reviews will be similar to a critical review of an article. For each review you should explore the Internet to find some tool/technology/product that you think might be useful or not useful. This might be something as simple as using email (a basic tool, but perhaps a bit boring for this assignment), some website you find that encourages chat among speakers of different languages, or any other tool you discover that you believe has a potential use (including text, audio, or video). Remember, this is a *critical* review, so the tool you review may not be perfect! Your critical review should include the following sections:

Part I. A concise description of the tool being described.

This is similar to the summary part of a critical review of an article. Therefore, this section of your review should describe the tool, *not* evaluate it. For this section you should answer the following questions:

- What is the “bibliographic” information for the product? By this I mean that you should provide information that will allow your readers to find and/or potentially download the technology under review. You should also mention who created the tool (probably a company, but perhaps an individual).
- How is the product described by its creators?
- What is the product designed to do?
- How do you use the product? (This should be a step-by-step set of instructions that will let your readers understand how to use the product. I strongly recommend the use of screen captures in your paper as part of this process.)

Part II. The second section of your critical review is the critical part.

In this section you will evaluate the strengths and weaknesses of the product as it relates to language learning. In this part of your review you should answer the following questions:

- How easy or difficult is this product to use? This answer should include a discussion of required technologies (Do you need a newer computer? Do you need a high speed connection? Do you have to download something onto your computer? Do you need a head set or webcam?). Who do you think would most benefit from using this product?
- How could this product be used to enhance language learning and how could this product provide a condition for optimal language learning? It is possible that the answer to this question is not discussed at all on the website for the product—answering this question will depend on your insights. In answering this question, please give some very concrete suggestions. For example, you might briefly discuss how an individual learner might use the technology for learning, or you might discuss how a language instructor might make use of the technology for language activity in a classroom or between two classrooms separated by thousands of miles.

APPENDIX E: Critical reviews

Critical Review (A). Gerry's Vocabulary Teacher

Gerry's Vocabulary Teacher has been designed to make life easier, and instruction more efficient, for those who teach English as a Second or Foreign Language. Gerry's Vocabulary Teacher was created by ESL teacher Gerry Luton, and Martin Holmes, formerly an ESL instructor and now a software designer. The purpose was simply to make the teaching task for Gerry a little easier through use of a tool which would allow him to quickly and easily provide multiple opportunities for his students to encounter and review vocabulary. Using the program, a gap-fill exercise to review 15 words can be created in about 3 minutes. Students constantly review vocabulary throughout the session, through gap-fill exercises, crossword puzzles using gap-fill sentences in context as clues, listening exercises using gap-fill sentences, discussions which require use of the target vocabulary, and many other activities.

Gerry's Vocabulary Teacher allows you to quickly and easily:

- create gap-fill exercises as hard-copy (paper) documents
- export your exercise into a Hot Potatoes JMatch or JCloze format to create interactive web-based exercises,
- create gap-fill exercises using American, British or Canadian English
- import a new gap-fill exercise into an existing document,
- introduce new vocabulary for study,
- review vocabulary previously introduced in class, repeatedly recycle target vocabulary in varying contexts in order to enhance understanding,
- generate exercises tailor-made to specific students' needs for vocabulary instruction and/or review,

- focus separately on each of the ten sublists of the Academic Word List,
- test vocabulary comprehension, *and*
- provide opportunities for students to practice target vocabulary in discussion activities.

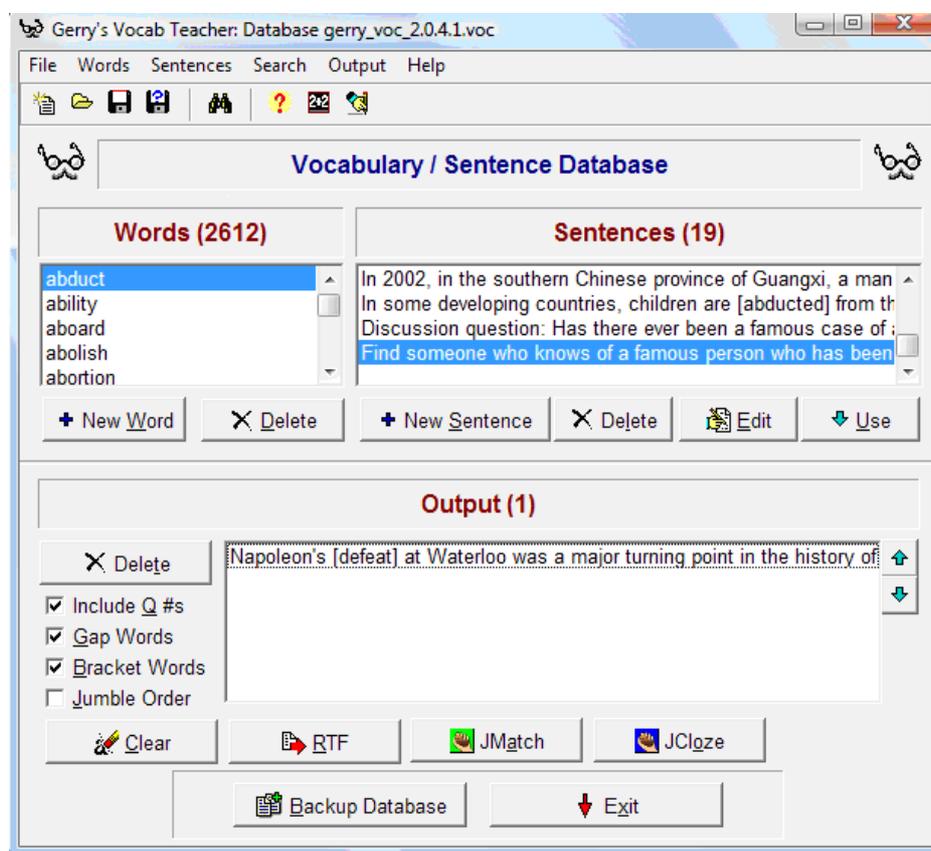
Gerry's Vocabulary Teacher consists of a vast collection of sentences in context, illustrating over 2,600 words with a minimum of 15 contexts each, for a total of over 50,000 sentences and 750,000 words of data. Teachers choose the words to study, select from among a variety of sentences using the word and/or its various derivations in context, and with a few simple mouse-clicks, are able to create a complete vocabulary gap-fill exercise.

Furthermore, the program also allows users to edit or delete sentences contained within the database, and users can even add to their personal database collection with words and sentences of their own. Any changes or additions made are automatically saved to disc.

Gerry's Vocabulary Teacher is a 32-bit Windows application. This means that it will run on any computer running Windows 98, NT4, 2000, or XP. The Gerry's Vocabulary Teacher software program only takes up about 5Mb of space on your hard drive, or about as much space as a single song.

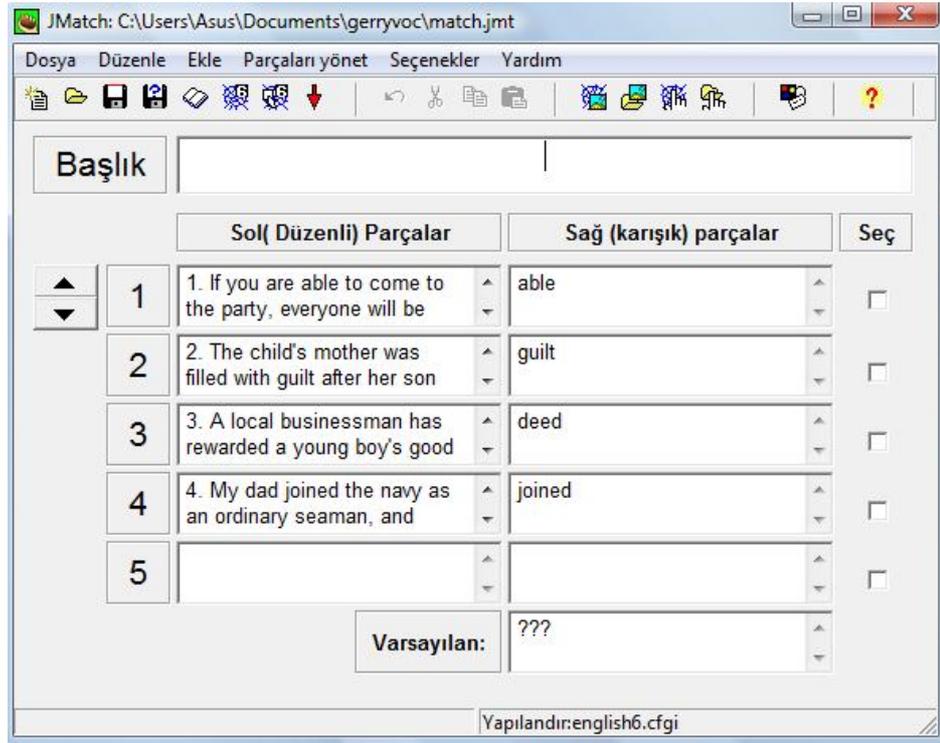
- Pricing is: One single-user registration Gerry's Vocabulary Teacher: US\$50
- Extra seat (allows downloading of the program onto a 2nd computer): US\$35
- CD-ROM One single-user registration: US\$75

How to use this tool?



The setup file is 4.63 mb and it downloads less than one minute. There are words on the left side of the page and you can choose one of them by clicking on it. On the right side of the page there are sentences related with the word you chose. You can choose a suitable sentence and then click on the Use button. Your sentence appears in the Output section. If you want to have exercises you need to choose the RTF button. After that, program asks you to name the file and then your word and the sentences related with that word appear. You need to fill in the blanks

1. He broke the law, and now he has to face the _____ of his actions.
2. The victim was _____ in the chest with a large kitchen knife.



To use Jmatch and JCloze, you need to have HotPotatoes installed on your computer. After choosing the sentences and words and putting them in output section, you choose the buttons of Jmatch and Jcloze, the program asks you a location and filename for your document. Then the files appear and you have the activities.

Evaluation of program

Actually the usage of this program is simple because the name of the items gives us the clue about their function. Even if you do not have an idea about them, after clicking a few times on the buttons, you understand the relationship and the service of them in the program. Also the tool does not require any new technology such as a new computer. It is convenient to any kind of computer. It does not force the capacity of your computer or it does not require high speed connection as the program's components are not complex. To be able to use the Jmatch and Jcloze, you need to download hot potatoes program. Meanwhile, this

tool does not require any special thing such as a webcam but for the listening activity, you can need a headphone.

Both the EFL and ESL can benefit from this tool. Also, any learner with a basic knowledge of computer can use this tool easily. I think that the foreign language students can find the sentences and exercises a bit easy and below their level. However they can use these activities to practice and test their vocabulary knowledge. The tool is also appropriate to the people who learn English individually. They do not need a teacher while doing the exercises because the tool presents a variety of example with the immediate feedback..

This program can be used by students and teachers effectively. The teacher brings the hard copies of the activities and hand out them to the students. The students can make up stories with the words or form new sentences. Then teacher gives homework to the students and each of them is expected to do cloze tests or activities at home then they bring the hard copies of them to the classroom and each of the student chooses the words and activities which they had difficulties.

The tool also offers the students to guess and learn the vocabularies by the help of a variety of different sentences. You can see many sentences and different usages of the words in the context which enhance the learning of the words. The students do not need the classical way of learning a vocabulary by writing many times. The diversity of the sentences increases the perspective of student. Also teachers have the easy way of accessing many words and examples. However it is lack of some features such as it does not have the definitions of the words. Also it does not have other activities apart from cloze and matching activity. Moreover, it is not free. You need to pay for registration like US\$50. If you do not pay, you need to use a limited version which only offers five sentences for the exercises.

Critical Review (B). Wondershare QuizCreator

PART I.

1. What is Wondershare QuizCreator?

Wondershare QuizCreator is a program used for designing interactive flash-based quizzes, tests, and assessments. It is not free, but you can download free 30-day-trial and experience it before purchasing. It costs \$129.95. It integrates with multimedia and interactivity. Users of the program can create a variety types of questions including single or multiple answer multiple choice, true-false, fill in the blank, matching, word bank, sequence, click map, and short essay. By the help of its features, users can also add sounds, flash animations, images, narrations, hyperlinks, and screenshots to the questions and answers they prepare. QuizCreator supports arranging quiz player templates, forming feedback according to the responses of people who take the quiz and following results online with one of its features, Quiz Management System (QMS). After creating the quiz, users can add it to their own web pages, blogs or forums. When the quiz is completed, quiz takers can view the results with scores and send quiz reports via e-mail to their directors or teachers.

2. Who designed Wondershare QuizCreator?

Wondershare QuizCreator has been created by a company, Wondershare. The company was established in 2003 and since then it has been dedicated in improving innovative multimedia applications for individuals and businesses.

One of its customers describes it as responsive support staff, progressive development offering the best value for your money.

3. What is Wondershare QuizCreator designed to do?

Wondershare QuizCreator is designed to create quizzes and tests easily in a short time. Everybody can use this program without having difficulty just by installing it. By this program users can design different kinds of questions and track the results. Wondershare QuizCreator is a tool used in the field of education. Teachers who want to test their students can prepare quizzes and tests with this program and give feedback in question or answer level to their students.

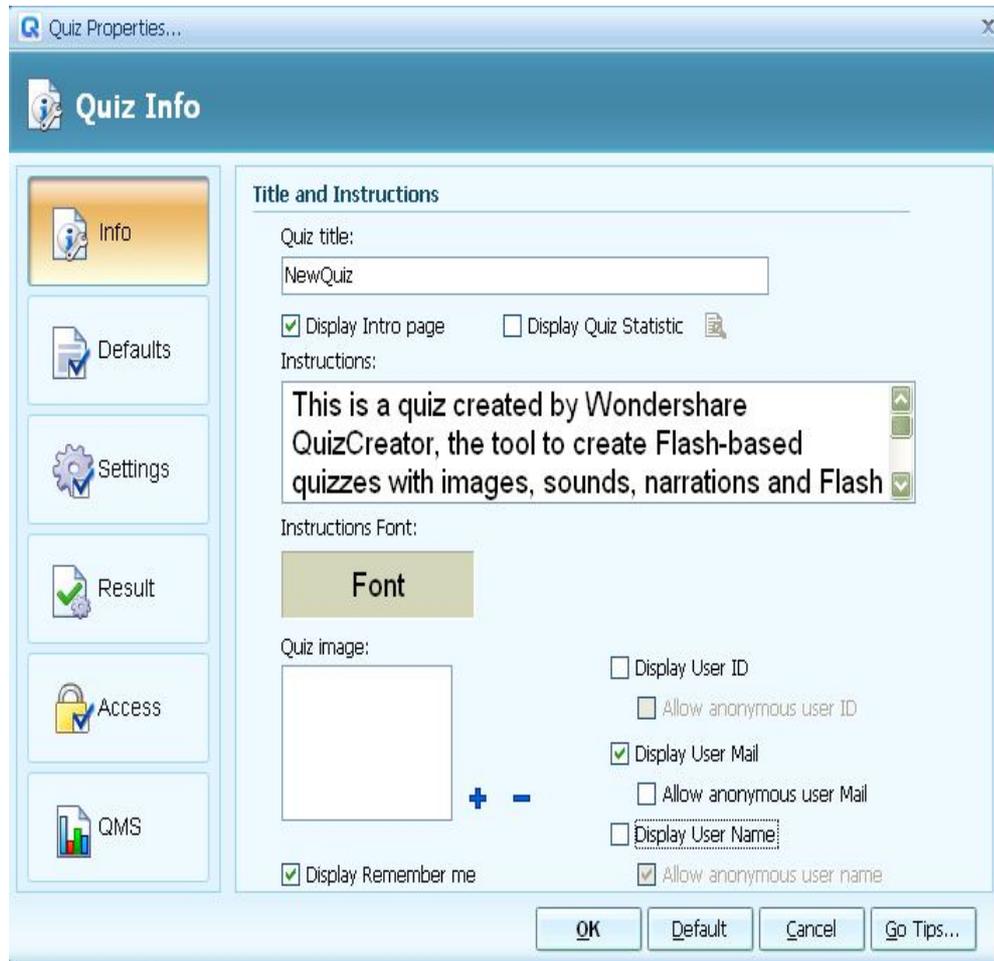
4. How is Wondershare QuizCreator used?

After installing the program, you can easily and quickly create quizzes with images, sounds and various color schemes. Then you just need to enable Quiz Management System (QMS) and set up QMS accounts in a few step to start the tracking and reporting. Wondershare QMS is a hosted quiz results tracking and reporting service for Wondershare QuizCreator. To start using QMS just follow the steps given below:

4.1. Set Intro Page to Identify Quiz Takers

In QuizCreator, go to Quiz Properties tab → Info and ensure that the ‘Display Intro Page’ is selected. The option ‘Display User Mail’ must be selected and another option ‘Allow anonymous user Mail’ must remain unselected to identify

every quiz taker in QMS by means of their e-mail account. So participants need to enter their e-mail addresses to create their QMS accounts.



4.2. Enable QMS to post Quiz Results to QMS Database

In Quiz Properties tab → QMS Settings section, ensure the 'Enable QMS' is selected to post results to QMS database.



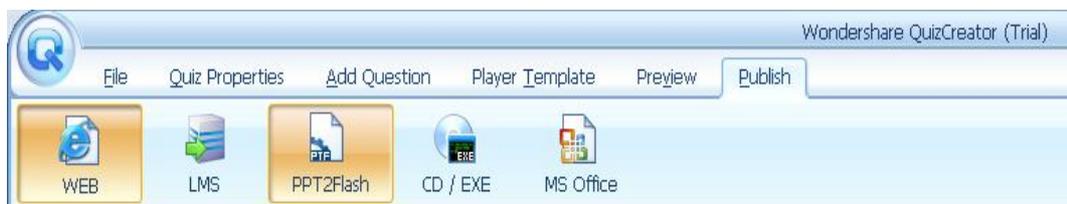
4.3. Register and Define Instructor's Account in QMS

In Quiz Properties tab → QMS Settings section, trial version users can register Instructor accounts in QMS Demo Site; Registered Full version users can register Instructor accounts in QMS without time limit. Click 'Create QMS Accounts' to register a new account. So you can login to QMS to check test results anytime.



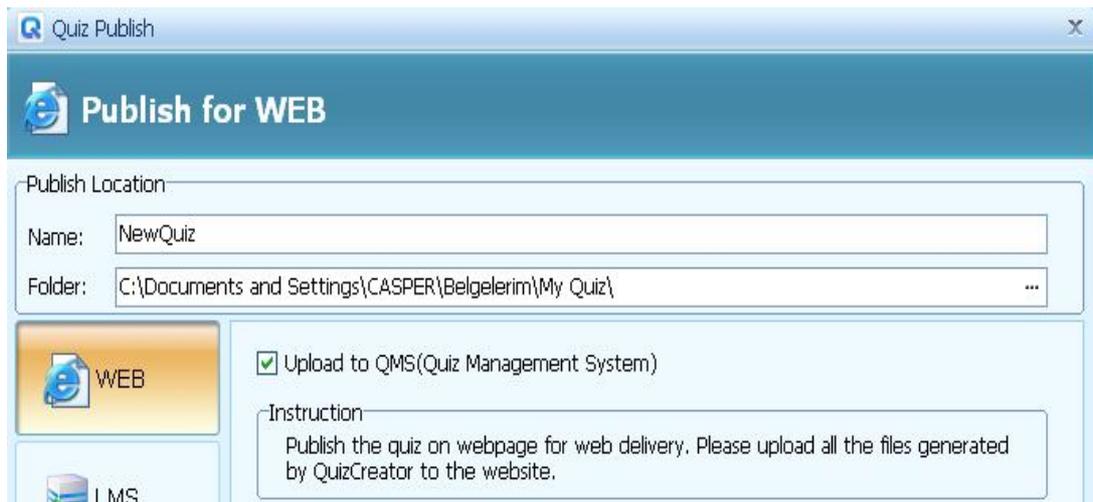
4.4. Publish, Take and Track your Quizzes

When you do all the settings above and compose your quiz, go to the Publish tab to select the final output form of your quiz. Then all the results from your quiz will be tracked and reported by QMS when your participants take the quiz. You can publish your quiz on web; store it on LMS (Learning Management System), save it as PPT or MS Office file or on a CD/EXE.



4.4.1. Publish Quizzes to Web

QuizCreator generates a web site for your quizzes. You can upload the files generated by QuizCreator to your web space and post the link of the quiz page on your web site.



4.4.2. Publish Quizzes on Your Own Web Page

If you have your own web page, you can add your quizzes to it. Since QuizCreator creates Flash-based quizzes, you can insert a quiz in the same way you insert a Flash file. When you publish a quiz for web, QuizCreator will generate three files: .html, .swf, .xml. With the .swf and .xml, you can create your own webpage for the quiz.

4.4.3. Publish Quizzes on a Blog

You can insert a quiz with .swf extension to your blog.

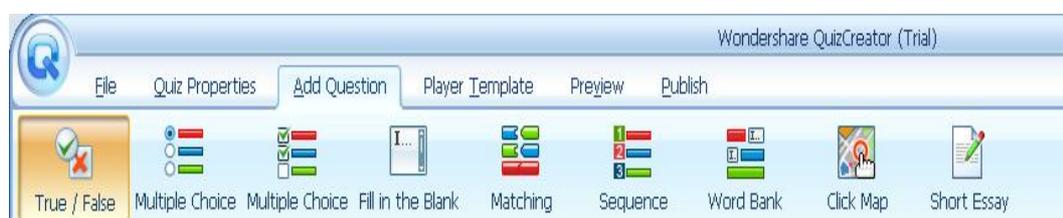
4.4.4. Publish Quizzes on a Forum

The way of inserting a quiz into a forum is similar to inserting into a blog, but not all forums support the feature of inserting a flash file.

PART II.

1. How easy or difficult is Wondershare QuizCreator to use?

Wondershare QuizCreator is very easy to use. When you want to create a quiz, you just click on 'Add Question' and choose the type of question you want to use and insert your questions, answers, and feedback. The choices you can use are true/false, multiple choice, fill in the blank, matching, sequence, word bank, click map, and short essay. You can also add an image, an audio file or a hyperlink, feedback to your questions. You can arrange the fonts as you want.



2. Who would most benefit from using Wondershare QuizCreator?

I think that Wondershare QuizCreator is one of the best tools which can be used in education. Teachers, instructors can benefit from this program in their teaching experiences. They can design a variety kind of quizzes easily and quickly. They can make use of the features of the program in most of their courses.

3. How could Wondershare QuizCreator be used to enhance language learning?

Teachers can use these different kinds of question types to improve language learning of students. I have installed the trial version of Wondershare QuizCreator to my PC and used its features. I have liked especially one of its question types, Click Map. In that option you can enter the question, import an image and add a hotspot on that image so that quiz takers can find the answer in a visual way. This feature is very suitable for learners who can learn better with visual aids. Besides Click Map, teacher can use other features of the program easily in a classroom environment. Also they can keep the results of the quizzes by the help of QMS. I have nearly explored the whole features of the program and I haven't had any problem with it. I really suggest Wondershare QuizCreator to all instructors. It will be very helpful for them. I also will use it in my future teachings.

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<http://www.sameshow.com/quiz-creator.html>

APPENDIX G: Lesson plans

Students' profile

Age: 14

Proficiency level: Advanced

Classroom Size: 20 students

School: xxxx College

Aims:

- To expand Ss range of vocabulary
- To practice reading comprehension (reading for gist, reading for details)
- To practice speaking skills – expressing opinions
- to enhance listening comprehension

Objectives:

- Ss know vocabulary connected with gun possession
- Ss can express their opinion on gun rights
- Ss are able to write a blog entry

CALL tools used

- Dokeos
- YouTube Videos
- Blogging
- Wordchamp (Online vocabulary site)

Materials and Text used

- Blog for the class
- Reading text
http://news.bbc.co.uk/onthisday/hi/dates/stories/april/20/newsid_2489000/2489639.stm
- Matching activity prepared by using “Hot Potatoes”
- Video “*Bowling for Columbine*”
<http://www.youtube.com/watch?v=Zqh6Ap9ldTs>
- Comprehension Questions about the video
- Vocabulary activities on Word champ (<http://www.wordchamp.com>)
- Website for writing and reading other people’s flashforwards

Possible problems

Slow Internet connection, websites may be temporarily unavailable; Ss may have difficulties with using Word Champ and Dokeos Platform

Stage	Procedure	Mode of work	Timing
	T tells Ss to log in to their course website through Doko eos and choose lesson devoted to “GUN CONTROL”		3 mins
Warm-up	T asks Ss to open task 1 containing photographs and newspaper headlines provided as stimuli and discuss the topic and answer the questions.	whole class	5mins
Pre-reading	T shows the video “ <i>Bowling for Columbine</i> ”, downloaded from YouTube (http://www.youtube.com/watch?v=Zqh6Ap9ldTs) on the projector and asks Ss to complete the second task. Ss fill in the gaps while watching the video.	whole class/individual work	10 mins
While-reading	T tells Ss open the URL in task 3 (http://news.bbc.co.uk/onthisday/hi/dates/stories/april/20/newsid_2489000/2489639.stm), read the text quickly and answer two general questions. Ss read the text again and answer T/F question	Individual work	11 minutes
Post-reading	T tells Ss to log in on Word Champ website (www.wordchamp.com). They are asked to put the URL into <i>Web Reader</i> and find translations of the words listed by the teacher in task 4. If the translations are not available, the Ss are supposed to look them up in online dictionary and add translation to Word Champ database. Ss add these words to the practice list.	pair work	10 mins
	Using the practice list the Ss do vocabulary exercise in Word Champ.	pair work	5 mins
Homework	Ss add a new entry to their blogs expressing their opinion on the right to possess a gun (150 words).	individual work	1 min

APPENDIX H: Curriculum vitae

CURRICULUM VITAE

PERSONAL INFORMATION

Surname, Name: Kılıçkaya, Ferit
Nationality: Turkish (TC)
Year and Place of Birth: 1977, Çankırı
Marital Status: Married
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EDUCATION

Ph.D.	Middle East Technical University, English Language Teaching (ELT)	2012
M.A.	Middle East Technical University, English Language Teaching (ELT)	2005
B.A.	Boğaziçi University English Language Teaching (ELT)	1999
High School	Anatolian Secretarial High School Business and Administration	1995

WORK EXPERIENCE

Year	Place	Enrollment
2002-2012	Middle East Technical University, Dept. of Foreign Language Education	Research Assistant
2001-2002	Gazi University, School of Languages	English Language Instructor
2000-2001	Turkish Land Forces, School of Languages	English Language Teacher, 3 rd lieutenant
1999-2000	Malatya Anatolian High School	English Language Teacher
1997-1999	Sarıyer Municipality, Cultural Center, in coordination with Boğaziçi University	English Language Teacher

FOREIGN LANGUAGES

English, French

PUBLICATIONS

Book Chapters

Kılıçkaya, F. (2011). Improving pronunciation via accent reduction and text-to-speech software. In M. Levy., F. Blin, C. B. Siskin (Eds.), *WorldCALL: International Perspectives on Computer-Assisted Language Learning*, (pp. 85-96). NY: Routledge.

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HOBBIES

Computer Technologies, Tracking,

APPENDIX I: Turkish summary

BÖLÜM I

GİRİŞ

1.0. Sunum

Bu çalışma, İngilizce öğretmenlerinin almış oldukları eğitimi sınıflarına nasıl uyguladıklarını, hangi faktörlerin bu uygulamayı etkilediğini, yeni teknolojiler hakkında nasıl bilgi sahibi olmalarının sağlandığını ve bu bilgiyi sınıf içi çalışmalarına nasıl uyguladıklarını araştırarak, bilgisayar destekli dil öğretimi eğitiminin, İngilizce öğretmenlerinin teknolojiyi dil eğitiminde kullanımı üzerine etkilerini incelemektedir.

1.1. Araştırmayla ilgili geçmişin araştırılması

Son yıllarda, teknolojinin günlük hayatımızın hemen hemen her anında kullanıldığına şahit olmaktayız. Bilgisayarlar ve internet sayesinde, insanların bütün dünyayla olan iletişimlerinin de kolaylaştığını görmekteyiz. Bütün bunlara ek olarak, teknolojinin sürekli olarak geliştiğini ve böylece dünyanın bir nevi “düzleştiğini” hissetmekteyiz. Friedman (2005) tarafından da bu durum vurgulanmaktadır. “Dünya bir nevi düzleşmekte ve küçülmektedir”. İster Türkiye’de, ister Hindistan’da, isterse Avusturalya veya dünyanın herhangi bir yerinde olun, insanlar artık birbirleriyle zaman ve mekân sıkıntısı olmaksızın

kolaylıkla iletişim kurmaktadır ve bu iletişim bilgisayarın ve internetin sağlamış olduğu imkânlarla mümkün kılınmaktadır. Eğitim alanında ise teknolojinin uygulanması daha önemli hale gelmektedir. Ancak, ortaya çıkan sorun, öğretmenlerinin teknolojiyi sınıflarında uygulama konusunda hazır olup olmadığıdır. Diğer bir ifadeyle, “sayısal göçmen” olan öğretmenlerin, “sayısal yerli” olan yeni nesle çağın gereklerine uygun eğitim verip veremeyeceğidir. Bu iki terim- sayısal göçmen ve sayısal yerli- Prensky (2001, sf. 1) tarafından ortaya atılmıştır. Teknolojinin öğrenciler ve öğretmenler tarafından nasıl kullanıldığını dikkate alan Prensky (2001), “Öğrencilerimiz oldukça değişmiştir. Günümüz öğrencileri, eğitim sistemimizin öğretmeye tasarlandığı öğrenciler değildir artık” diyerek öğretmenler ve öğrenciler arasındaki farkı açıklamaya çalışmaktadır. Bu ayrımla ilgili olarak Bayne ve Ross (2011) aşağıdaki tabloyu sunmaktadır (Tablo 1).

Tablo 1. Yerli ve göçmen farkı

yerli	göçmen
öğrenci	öğretmen
hızlı	yavaş
genç	yaşlı
gelecek	geçmiş veya miras
görsellik	metin
şakacı	ciddi
ileriye bakan	geriye bakan
sayısal	analog
hareket	bilgi
sürekli iletişim	yalnızlık, tecrit

1.2. Çalışmanın önemi

Lee (2000), Warschauer ve Healey (1998) tarafından da vurgulandığı üzere, BDDE teknolojileri, öğrenmeyi çeşitli yollarla desteklemektedir. Bunu da geri dönüt sağlama, ikili ve grup çalışmalarına izin verme, keşfedici ve evrensel öğrenme yöntemlerini kullanma, tek bir kaynak yerine çeşitli kaynaklardan faydalanma fırsatlarını sunma ve öğrencileri teşvik etme yoluyla yapmaktadır. Ayrıca, teknoloji bize, dil öğrenmeyi daha zevkli, üretken ve etkili hale getirme konusunda yardımcı olmaktadır. Ancak, bütün bunları başarmak, teknolojiyi etkin olarak kullanabilen öğretmenlere sahip olmakla mümkündür. Bu durumu Warschauer (2002, sf. 472) kısa bir notla çok iyi bir şekilde gözler önüne sunmaktadır. Mısırlı bir üniversite öğretim elemanı, teknolojinin etkili bir şekilde kullanımında öğretmenlerin ve eğitimlerinin ne kadar önemli olduğunu şu sözlerle ifade etmiştir : “Bizler, teknolojiyle ilgili donanıma sahibiz. Ancak bizde teknolojiyi kullanacak insan donanımı mevcut değildir”. Bu kısa notta da belirtildiği üzere, teknolojik araçların etkili bir şekilde kullanımı önemli ölçüde bu araçları kullanabilecek öğretmenlerin iyi bir şekilde eğitilmesine bağlıdır. Bu yüzden, öğretmen adaylarının ve hizmetçindeki öğretmenlerin, sınıf içinde teknolojiyi etkili ve faydalı bir şekilde kullanmaları için gerekli yetenek ve donanımlara sahip olması gereklidir. Bu da ancak ve ancak eğitimleri sırasında ve sonrasında alacakları eğitime doğrudan bağlıdır. Bu durumu yapılan çalışmalar açıkça ortaya koymaktadır. Seferoğlu (2007), Seferoğlu, Akbıyık, ve Bulut (2008) ve Karakaya (2010), yapmış oldukları çalışmalarda, öğretmen adaylarının, teknolojinin eğitimde kullanımıyla ilgili olarak kendilerini yeterli

görmediklerini belirtmişlerdir. Ayrıca, Göktaş, Yıldırım ve Yıldırım (2008), bilgisayar ve bilgi teknolojilerinin, öğretmenlerin bu teknolojileri kullanmasındaki yeterliklerini artırdığını belirtmişlerdir. Ancak, öğretmen adaylarının eğitimleri sırasında almış oldukları bilgisayar derslerinin yanında, öğretmen adaylarının alanlarıyla ilgili teknolojik araçlar hakkında bilgi veren ve çeşitli uygulamalara değinecek olan başka bir dersinde programlarına dahil edilmesi gerektiğini vurgulamışlardır. Türkiye’de öğretmen adaylarının alanlarıyla ilgili olarak – ki bu çalışmada İngiliz dili eğitimi dikkate alınmıştır- yapılan bir çalışma yazarın bilgisi dâhilinde bulunmamaktadır. Dolayısıyla, bu çalışma özellikle İngiliz dili eğitiminde sınıf içi etkinliklere teknolojinin kaynaştırması konusundaki alan yazın eksikliğini giderecektir. Ayrıca, BDDE araçlarının kullanımı üzerindeki çeşitli etmenlerin de tekrar gözden geçirilmesine fırsat vererek bu konuda da alan yazına katkıda bulunulacaktır.

1.3. Çalışmada kullanılan önemli terimlerin açıklaması

Bilgisayar Destekli Dil Eğitimi (BDDE): Bilgisayar destekli dil eğitime en uygun tanımı, Levy (1997) tarafından getirilmiştir. Levy (1997), BDDE’yi dil eğitiminde kullanılacak olan bilgisayar araçlarının araştırılması ve çalışılması olarak tanımlamaktadır. Alan yazında BDDE, çeşitli terimlerle de dile getirilmektedir. Bunlar, Bilgisayar destekli eğitim (BDE), Bilgisayar yardımcı eğitim (BYE), Bilgisayar-tabanlı eğitim (BTE) ve Teknoloji destekli dil eğitimi (TDDE) olarak kullanılmaktadır.

Bilgisayar Destekli Dil Eğitimi Tabanlı Etkinlikler: “Dil eğitimde kullanılan her türlü etkinliğin yerine getirilmesine yardımcı olan yazılım, ders içeriği, web siteleri, çevrimiçi dersler, programlar, paketler ve öğrenme ortamları” olarak tanımlanabilir (Levy & Stockwell, 2006, p.3). Bu etkinlikler, bilgisayar ve İnternet aracıyla yapılabilir ve “ dil öğrencilerinin, kendilerini bilgisayarlar vasıtasıyla ifade edebildiği ve diğerleriyle iletişime geçebildiği ortam” olarak görülebilir. Öğrenciler, değişik iletişim uygulamalarını sıkça olmasa da -bazen eğitim ortamlarında- yerine getirebilmek için kullanabilirler ancak yoğun olarak kullanma olmayabilir (Kern, 2011, p. 201).

Teknoloji kaynaştırması/kullanımı: Teknoloji kaynaştırması, öğretmen ve öğrenciler tarafından bilgisayarlar ve İnternet vasıtasıyla ulaşılan araç ve materyallerin, sınıf içi etkinliklerini desteklemek, öğrencileri güdülemek ve öğrenme etkinliklerini iyileştirmek amacıyla kullanılması olarak tanımlanabilir.

BÖLÜM II

ALAN YAZIN TARAMASI

3.0. Sunum

Bu bölümde teknolojinin öğretmen adayları ve öğretmenler tarafından kullanımı üzerine Türkiye’de yapılmış çalışmalar kısaca özetlenerek temel bulguları sunulacaktır.

3.1. Türkiye’de teknoloji kaynaştırma üzerine yapılan çalışmalar

Yüksek Öğretim Kurulu tarafından 1998 yılında gerçekleştirilen ve eğitim fakültelerindeki programların güncelleştirilmesi ve değiştirilmesini öngören program çerçevesinde, eğitim fakültelerinde bulunan programlara iki adet zorunlu bilgisayar dersi eklenmiştir. Bu derslerle, öğretmen adaylarının temel bilgi teknolojilerini konusunda kendilerini geliştirerek hem kendi öğrenimlerinde hem de öğretimlerinde kullanmaları amaçlanmıştır. Genellikle programların ilk dönemlerinde verilen birinci derste, öğretmen adaylarına kelime işlemci programları ve elektronik posta gönderimi gibi temel konularda eğitim verilmektedir. İkinci derse ise, bilgisayar teknolojilerinin eğitimde kullanımı amaç edinerek, öğrencilerin ilk derste öğrenmiş oldukları temel bilgiler üzerine yeni becerilerin eklenmesi amaçlanmıştır. Ancak, öğretmen adaylarının, alanlarıyla ilgili teknoloji eğitimi verilmemekte olup genel olarak bütün bölümlere hitap eden izlenceler uygulanmaktadır.

Öğretmen adaylarının bilgisayarların eğitimde kullanımıyla ve kendilerine verilen bilgisayar dersleriyle ilgili görüşlerine yoğunlaşan çalışmalar yapılmıştır (Top, 2003, 2008; Seferoğlu, 2007; Gülbahar, 2007; Seferoğlu, Akbıyık, & Buluk, 2008; Gülbahar, 2008; Yüksel & Kavanoz, 2010; Çoklar & Odabaşı, 2010; Karakaya, 2010).

Top (2003) tarafından yapılan çalışmaya 383 İngilizce öğretmen adayı katılmış ve Öğretmenler için Milli Teknoloji Standartları adlı ölçekle ilgili görüşlerini belirtmişlerdir. Bu çalışmanın sonucunda, katılımcıların ölçekle belirtilen standartlarla ilgili kendilerini çoğunlukla yetersiz hissettikleri ve bu konuda kendilerinin eğitime ihtiyaç duydukları bulunmuştur. Top (2007) tarafından yapılan başka bir çalışmada ise ortaöğretim okullarında görev yapan İngilizce öğretmenlerinin teknolojiyle ilgili görüşlerine başvurulmuş; sınıf içi etkinliklerinde teknolojiyi nasıl kaynaştırdıkları araştırılmıştır. Çalışma rastgele örnekleme seçilen 17 öğretmen ve 17 idarece katılmıştır. Çalışma, özel okullarda çalışan öğretmenlerin, devlet okullarında çalışan öğretmenlere göre teknoloji kaynaştırması konusunda daha bilgili olduklarını ortaya çıkarmıştır.

Gülbahar (2007) tarafından yapılan çalışma ise, öğretmen ve idarecilerin teknoloji konusunda kendilerini yeterli gördükleri; ancak, teknolojinin amacına uygun olarak kullanılması konusunda kendilerine gerekli eğitimin verilmesini vurgulamışlardır. Seferoğlu (2007) Ankara'da bulunan 54 öğretmen adayıyla yapmış olduğu çalışmada, temel bilgisayar bilgisinin, sınıf içi uygulamalarda

yeterli olmadığı; öğretmen adaylarının teknolojinin nasıl kullanılacağı konusunda eğitime ihtiyaç duydukları belirlenmiştir. Seferoğlu, Akbıyık ve Bulut (2008) tarafından gerçekleştirilen 51 öğretmen ve 56 öğretmen adayıyla başka bir çalışmada ise öğretmenlerin teknolojiyle ilgili bilgilerini hizmet içi eğitim alarak geliştirmeyi tercih ederken, öğretmen adaylarının deneme-yanılma yoluyla ve/veya arkadaşlarından yardım almayla bilgi edinmeyi tercih etmiştir. Bulgular, öğretmen ve öğretmen adaylarının kendilerini bilgisayarların eğitimde kullanılmasıyla ilgili yeterli görmediklerini göstermiş ve bunun üzerine eğitim fakültelerinde bilgisayar destekli eğitim üzerine derslerin verilmesini tavsiye etmiştir.

Gülbahar (2008) tarafından yapılan diğer bir çalışmada, Eğitim teknolojisi ve materyal geliştirme dersini alan 140 yüksek lisans öğrencisi yer almıştır. Katılımcılar, dersle ilgili olumlu yaklaşmışlardır. Gülbahar tarafından yapılan çalışma sonuçlarına benzer olarak, Yüksel ve Kavanoz (2010), İngilizcenin yabancı dil öğretimiyle ilgili verilen sertifika programında bulunan 200 öğrenciyle yaptıkları çalışmada, katılımcıların teknolojiye olumlu yaklaştıkları tespit edilmiştir. 7 farklı üniversiteden 2.566 öğretmen adayıyla yapılan diğer bir çalışmada (Çoklar & Odabaşı, 2010), öğretmen adaylarının Öğretmenler için Milli Teknoloji Standartları dikkate alındığında üretim ve profesyonel uygulama konularında kendilerini yeterli gördükleri belirlenmiştir.

Karakaya (2010), yüksek lisans tezinde, devlet okullarında çalışan 87 öğretmenle yapmış olduğu çalışmada, katılımcıların İngilizce eğitiminde teknolojinin kullanımına olumlu yaklaşıtlarını belirlemiştir. Ancak, teknoloji kaynaştırması konusunda herhangi bir eğitim almadıklarından dolayı, bu katılımcıların teknoloji kullanımları, alıştıırma hazırlamak ve elektronik posta göndermek gibi düşük seviyelerde kalmıştır. Bunun yanında, öğretmenlerin teknolojiyi uygun ve etkili bir şekilde kullanmaları için, bölümlerinde ve mesleklerine başladıklarında teknoloji eğitimi üzerine derslerin verilmesi gerektiği vurgulanmıştır.

Yukarıda verilen çalışmalar, bilgisayar derslerinin öğretmenlerin görüşleri baz alınarak teknoloji bilgilerini artırdığını göstermektedir. Ancak teknolojinin sınıf içi etkinliklere etkili ve uygun şekilde uygulanabilmesi için bu konuda öğretmenlere gerekli eğitimin verilmesini gerektiği de ayrıca vurgulanmaktadır.

3.2. Öğretmenlerin teknoloji kullanımını etkileyen etmenler

Öğretmenlerin derslerinde teknoloji kullanımını etkileyen değişik etmenler bulunmaktadır. Bu etmenler arasında, zaman baskısı (Lam, 2000; Smerdon et al., 2000); *materyal eksikliği ve donanım yetersizliği* (Gillespie, 2006; Smerdon et all, 2000; Egbert, Paulus, & Namamichi, 2002; Bingimlas, 2009; Atal & Usluel, 2011), *okullardaki izlenceler* (Langone et all, 1998). Levy (1997) gösterilebilir. Brown (1997) bu etmenleri şu şekilde sıralamıştır: Bilgisayar donanımı (her zaman mevcut olmaması veya çalışmaması), ekran çözünürlüğü ve boyutu

(özellikle okuma yeteneğinde önemli), öğrencilerin bilgisayarla olan aşinalığı ve bilgisayarla karşı olumsuz tavırları ve bilgisayar korkusu. Çin’de, İngilizce öğretiminde teknolojinin kullanımıyla ilgili yapılan eğitim reformunda da yukarıda belirtilen sorunlarla karşılaşmıştır. Ancak, bu reformun kabul edilmesini yavaşlatan en önemli etken olarak yeteri kadar maddi ve insani desteğin sağlanamamış olması gösterilmiştir (Hu & McGrath, 2011). Benzer şekilde, Yıldız and Seferoğlu (2011) tarafından ilköğretim okullarındaki öğrenciler üzerine yapılan bir çalışmada, öğrencilerin %35’inin bilgisayarla veya İnternetle ilgili herhangi bir etkileşimi olmadığını göstermiştir. Öğretmenlerin teknoloji derslerinde kullanımını etkileyen etmenlerin başında donanım, destek, izleme ve ülke çapında uygulanan sınavlar en etkili etmenler olarak sıralanmıştır (Lin, Wang, & Lin, 2012). Öğretmenlerin teknoloji kaynaştırması konusunda, Levin ve Wadmany (2008, sf. 235) özet olarak şunu ifade etmişlerdir:

Öğretmenlerin teknoloji kaynaştırması konusundaki eksiklikleri, eğitimin amaçlarıyla öğretmen, öğrenci, eğitim ve bilgi kaynakları ve izleme amaç ve materyalleri arasındaki uyumsuzluktan kaynaklanmaktadır.

Bax (2003), BDDE’nin farklı okullarda ve farklı öğretmenler tarafından uygulanmasıyla ilgili olarak yapmış olduğu durum çalışmalarında, öğretmenlerin eğitime ihtiyacı bulunduğunu tespit etmiş ve özellikle BDDE’nin uygulanmasıyla ilgili destek almaları gerektiğini belirtmiştir. Bu durum, teknolojinin uygulanmasında öğretmenlerin ve alacakları eğitimin önemini vurgulamıştır.

BDDE'nin etkili bir şekilde uygulanması, verilecek öneme, özel olarak seçilen yazılımlara, öğretmenlerin ve öğrencilerinin takınacakları olumlu tutumlara bağlı olmaktadır. Birçok öğretmen, teknolojinin sınıf içinde kullanımının, sınav ve alıştıırma hazırlama gibi omuzlarındaki çeşitli yükleri kaldıracağını düşünmekte ve böylece sınıfta geçen zamanın iletişim için kullanılabileceğini öne sürmektedir (Blake, 2008). Oysa BDDE'nin sunmuş olduđu fırsatlardan yararlanma, önemli ölçüde zaman, para, eğitim ve kendini adamayla doğru orantılıdır. Dolayısıyla, öğretmenlerin sınıf içi etkinliklerinde BDDE'den faydalanmaları, almış oldukları eğitime, tercihlerine, konu uzmanlığına ve teknolojiyi kullanmadaki güvenlerine oldukça bağlıdır (Latchem & Jung, 2010; Kerry & Wilding, 2004). Bütün bunlar, özellikle öğretmen adaylarının kendilerine olan güve ve yeterliliği üzerinde oldukça etkilidir (Gillespia, 2006). Öğretmen aday ve öğretmenlerin bu çok deęişkenli durumla başa çıkabilmesi için elektronik kaynaklardan da faydalanılarak oluşturulacak politikalara gerek duyulmaktadır(Guri-Rosenblit, 2011). Şöyle ki, öğretmen yetiştiricilerin öğretmen adaylarına model olması, öğretmenlere verilecek olan eğitimler, teknolojiye ulaşım ve teknolojiden faydalanılması, eğitim fakültelerinde uygulanan programlarda pratik uygulamaların yapılması, (Velazquez-Torres, 2006), öğretmen adaylarının kendilerini teknolojinin eğitimde kullanılmasıyla ilgili olarak yeterli hissedebilmeleri için (Demetrdiadis ve dięerleri, 2003) öğretmen adaylarının bölümlerindeki bütün eğitimcilerin katılımıyla verilecek olan destek ve eğitimler (Berger & Thomas, 2011) teknolojinin etkili bir şekilde uygulanmasında önemli rol üstlenecektir.

BÖLÜM II

ARAŞTIRMA YÖNTEMİ

2.0. Sunum

Bu bölümde, araştırma soruları, araştırmada uygulanan yöntemler, veri elde edilmesinde ve analizinde kullanılan araçlar hakkında bilgi verilecektir.

2.1. Yöntem

Çalışma, nicel ve nitel araştırma yöntemlerinden faydalanmıştır. Katılımcıların bulunduğu ortam, almış oldukları eğitim ve araştırma sorularının içeriği çalışmanın eylem araştırmasının temelinde bir durum çalışması olarak görülebilir. Schreiber ve Asner-Self (2011, sf. 12) tarafından durum çalışması “... bir kişinin, grubun veya topluluğun; sosyal ortamın veya olayın nasıl işlediğine dair sistemli bir şekilde veri toplanmasıdır.” olarak tanımlanmıştır. Hitchcock ve Hughes (1985, McKay, 2006 tarafından belirtilmiş, sf. 71), durum çalışmasının aşağıdaki temel özelliklerine değinmiştir:

1. Çalışılan durumla ilgili, zengin ve gerçekçi açıklama ve tarifler sunar.
2. Çalışılan durumla ilgili, gerçekleyen olayların kronolojik olarak sıralaması verir.
3. Olayların tarif edilmesiyle beraber, olayların çözümlemesini de sunar.
4. Çalışılan durumla ilgili, kişilerin ve gruplar üzerinde yoğunlaşır ve bu kişi veya kişilerin olayla ilgili tutumlarını inceler.
5. Çalışılan durumlular ilgili özel olayları vurgular.
6. Çalışılan durumun rapor haline getirilmesinde, ilgili durumun zenginliğini ortaya koyar.

2.2. Çalışmada yer alan katılımcılar

Bu çalışmaya, 2008-2008 eğitim ve öğretim yılında, Orta Doğu Teknik Üniversitesinde eğitim gören ve FLE 318 kodlu seçmeli dersi alan 35 öğretmen adayı ve daha sonra çeşitli özel ve devlet okullarında öğretmenlik mesleğine başlayan 25 öğretmen adayı katılmıştır. Çalışma haftada 5 saat olarak toplam 14 hafta sürmüştür. Çalışmanın iki saati bilgisayar laboratuvarında, özellikle bilgisayar konusunda kendisini yeterli görmeyen katılımcılar için ayrılmıştır. Çalışmada nitel ve nicel araştırma yöntemlerinden faydalanılmıştır. Katılımcılarla ilgili bilgisayar aşağıdaki tablolarda sunulmuştur (Tablo 2 ve 3).

Tablo 2. Eğitim öncesi çalışmada yer alan katılımcılar

<i>Ana dili</i>	Türkçe	33
	Moğolca	1
	Azerice	1
<i>İngilizceyi kaç yıldır öğrendiği</i>	5-10	30
	10 yıldan fazla	5
<i>Yaş</i>	18-20	29
	20-22	6
<i>Cinsiyet</i>	Erkek	7
	Bayan	28
<i>Seçmeli Dersi Alma nedeni</i>	İlgilendiği için	20
	Başka seçmeli ders yok	7
	Diğer	8

Tablo 3. Eğitim sonrası çalışmada yer alan katılımcılar

<i>Ana Dili</i>	Turkish	25
<i>Eğitim yaptığı kurum</i>	İlköğretim (6-8)	10
	Lise (9-12)	10
	Üniversite	5
<i>Yaş</i>	23-24	25
<i>Cinsiyet</i>	Erkek	21
	Bayan	4
<i>Okul/Üniversite</i>	Devlet Okulu	19
	Özel Okul/Üniversite	6

2.3. Araştırma Soruları

1. Hizmetçindeki öğretmenlerin BDDE eğiminde öğrenmiş oldukları bilgi, sınıf içi etkinlikleri nasıl etkilemiştir?
2. İngilizce öğretmenlerinin BDDE araçlarını sınıf içi etkinliklerinde kullanımını etkileyen etmenler nelerdir?

2.4. Veri toplama araçları ve yapılan işlemler

Çalışmanın tasarımı ve yapılan işlemler aşağıdaki tabloda verilmiştir (Tablo 4).

Tablo 4. Çalışmanın yürütülmesi

Veri	Katılımcı	Zaman
Katılımcılardan çalışma izni alınması	35 katılımcı	Çalışma öncesinde
Deneme çalışması	FLE 318 dersini daha önce alan katılımcılar (2006-2007 akademik yılı)	Çalışma öncesinde
Eğitim içeriğinde ve BDDE araçlarında değişiklik (Daha önceki katılımcıların öneri ve isteklerine göre)		Çalışma öncesinde
Eğitim	İngilizce öğretmenliği bölümü öğretmen adayları (35)	Haftada 5 saat (14 hafta)
Anketler/Günlükler Ders Planları/Görüşmeler	Okullarda çalışmaya başlayan katılımcılar (25)	Katılımcıların mezun olmasından ve okullarda çalışmaya başlamasından sonra

Mackey ve Gass (2005) tarafından da belirtildiği üzere, deneme çalışması, asıl çalışmada kullanılacak olan içerik ve yöntemlerin küçük bir çalışmada değerlendirilmesi, önemlidir. Araştırmacı bu şekilde deneme çalışması sonucu ortaya çıkan sorunları ortadan kaldırmaya yönelik önlemler alabilecek ve kullanılacak içerik ve yöntemleri güncelleyebilecektir. Bu yüzden, deneme çalışmasında uygulanan görüşme ve anketleri, alan yazın da dikkate alınarak güncellenmiştir. Görüşmelerde ve anketlerde yer alan sorular, deneme çalışmasında yer alan katılımcılarla denenmiş ve güncellenmiştir. Ayrıca, eğitim içeriği deneme çalışmasındaki katılımcıların görüşleri de alınarak güncellenmiştir (Kılıçkaya, 2009). Deneme çalışmasındaki katılımcıların, FLE 318 kodlu derste almış oldukları eğitimle ilgili görüşleri alanmış, almış oldukları

eđitimin faydalı ve gereksiz buldukları bölümleri belirtmeleri istenmiştir. Bu çalışmadaki eğitimde kullanılan içerik ve yöntemler, katılımcıların görüşlerine göre yeniden değerlendirilmiş ve şekillendirilmiştir.

Mackey ve Gass (2005, sf. 33) tarafından örnek olarak verilen çalışmaya katılım onayını temel alan formu imzalayan katılımcılara, çalışma öncesinde, Çoklar ve Odabaşı (2009) tarafından NETST standartlarına dayalı olarak denenen ölçek verilmiştir. B ölçekte 6 ana yapı ve toplam 41 maddeden oluşmaktadır (Ek B). Bu ölçek, aynı zamanda çalışma sonunda katılımcıların göreceli bilgisayar bilgilerinin deęişip deęişmediđini tespit etmek için de kullanılmıştır.

Verilen eğitim sırasında ve katılımcılar öğretmenlik mesleđine başladıktan sonra, katılımcılardan almış oldukları eğitimle ilgili neler öğrendiklerine, görüş ve duygularına ve almış oldukları eğitimi sınıflarında nasıl kullandıklarına veya kullanamadıklarına dair günlük tutmaları istenmiştir. Ayrıca, verilen eğitim sırasında katılımcılardan internette bulabilecekleri ve sınıflarında yararlı veya faydasız olabilecek araçlar üzerinde iki adet eleştirel yazı yazmaları istenmiştir (Ekler E ve F).

Verilen eğitimin sonuna doğru, belirtecekleri öğrenci kazanımlarına ve amaçlarına uygun bir şekilde katılımcılardan faydalı buldukları araçları kullanarak ders planları hazırlamaları istenmiştir. Bu ders planlarına ek olarak,

okul deneyimi derslerinde hazırlayacakları küçük ve büyük ders planları için de öğrenmiş oldukları bilgiyi kullanmaları istenmiştir.

Katılımcıların, okul deneyimi çerçevesinde hazırlamış oldukları küçük ve büyük ders planları, almış oldukları eğitimin etkilerini görme açısından içerik analizine tabii tutulmuştur. Katılımcılardan mezun olduktan ve öğretmenlik mesleğine başladıktan sonra da günlük tutmaları istenmiş ve bu günlüklerde hangi BDDE araçlarını kullandıklarını ve/veya kullanmadıklarını ve bunların sebeplerini yazmaları istenmiştir. Katılımcılara, çalışmakta oldukları okulun sunduğu ortam ve teknolojik kaynaklarla ilgili, Hong (2009, sf. 144) tarafından geliştirilmiş olan ve 16 maddeden oluşan anket verilmiştir (Ek C). Ayrıca, katılımcılardan 10'u öğretmenlik mesleğini seçmediği veya öğretmen olmadığı için, araştırmacı 25 katılımcıyla *Skype* üzerinden görüşme yapmıştır. Yapılan görüşmelerde aşağıdaki sorular temel alınmıştır. Ancak, görüşmenin gidişatına göre sorular üzerinde değişiklikler veya yeni sorular eklenmiştir:

1. Sınıfınızda herhangi bir teknolojik araçtan faydalandınız mı? Örnek verebilir misiniz? Eğer kullanmadıysanız, hangi sorunlar/sebepler buna yol açtı?
2. Öğretim ve eğitim etkinliklerinizde teknolojik araçları kullanmak istediğinizde okulunuz size destek oldu mu?
3. BDDE araçlarını kullanırken hangi sorunlarla karşılaştınız? Bu araçları kullanmama sebepleriniz nelerdir?

4. Okuldaki diđer meslektařlarınız BDDE aralarını kullanmakta mıdırılar?

Elde edilen verilerin analizinde, betimsel ve ıkarımsal istatistik ve ayrıca ierik ve kodlama yntemlerinden faydalanılmıřtır. Katılımcılara verilen anketlerin analizinde *IBM SPSS* İstatistik Programının 20. Sürümü kullanılmıřtır. Diđer bütün yazılı belgeler, grüşmeler ve gnlükler, ierik ve Maxquda 10 programıyla kod analizine tabii tutulmuřtur.

BÖLÜM III

VERİ ANALİZİ

3.0. Sunum

Bu bölümde, araştırma sonucunda elde edilen verilerin analizi kısa olarak sunulacaktır.

3.1. Anketler

Çalışma esnasında kullanılan anketler, *IBM SPSS* İstatistik Programının 20. Sürümü ile betimsel ve çıkarımsal analiz yöntemi kullanılarak incelenmiştir. Katılımcıların çalışmakta oldukları okullarla ilgili verilen anketler, betimsel olarak analiz edilmiştir. Katılımcıların göreceli bilgisayar bilgisinin çalışma öncesi ve sonrasındaki edinimlerin karşılaştırılması amacıyla tek yönlü varyans (ANOVA) analizi uygulanmıştır. Uygulanan analizlerin güvenilirlik verileri için cronbach alpha katsayısı ($r = .70$) temel alınmıştır. Katılımcıların göreceli bilgisayar bilgisinin katsayısı .76 ve katılımcılara okullarıyla ilgili verilen anketlerin katsayısı .82 olarak belirlenmiştir.

3.2. Ders planları, eleştirel yazılar, günlükler ve görüşmeler

Katılımcılarla yapılan görüşmeler, katılımcıların tutmuş olduğu günlükler ve yazmış oldukları eleştirel yazılar ve hazırladıkları ders planları; içerik ve Maxqda 10 programıyla kod analizine tabii tutulmuştur.

İçerik ve kod analizleri, Stake (1995, Schreiber ve Asner-Self, 2011’de belirtilmiş) tarafından belirlenen aşamalara göre yapılmıştır. İlk aşamada, çalışma sırasında ve sonrasında elde edilen veriler tarihsel ve sıradüzensel olarak sıralanmıştır. Sonrasında, araştırmacı, verileri sınıflandırmış ve verileri anlamsal birimlere ayırmak için belirlenen sınıfları düzenlemiştir. Son aşama olarak, elde edilen veri birimlerini ve sınıfları bütün olarak ele almıştır ve ortaya çıkan desen ve konulara göre verileri incelemiştir. Bu işlemler sırasında, araştırmacı başka bir alan uzmanıyla beraber ortaya çıkan desenleri ve kodları tartışmış ve gerekli olan değişiklikleri yapmıştır. Kodlayıcılar arasındaki tutarlılığı sağlamak ve içerik analizindeki güvenilirliğin sağlanmasından emin olmak için Kendall tarafından belirlenen Uygunluk katsayısı hesaplanmıştır. Bu katsayı eleştirel yazılar için .863; ders planları için .943; görüşmeler için .853 ve günlükler için .883 olarak tespit edilmiştir.

3.3. BDDE Dersi

Çalışma, araştırmacı tarafından Orta Doğu Teknik Üniversitesi Yabancı Diller Eğitimi bölümünde verilen seçmeli ders *FLE 318: İngilizce Eğitimde İşitsel ve Görsel Araçlar* dersi üzerinden yapılmıştır. Ders ve içerikle ilgili bilgi Ek D bölümünde sunulmuştur.

Bu çalışmayı yürüten araştırmacı, teknolojinin her gün değiştiğinin, bugün popüler olan bazı araçların bu popülerliğini zamanla yitirebileceğini ve yeni araçların ortaya çıkabileceğinin farkında olduğu için uygulanan eğitim aynı

zamanda katılımcıları bilgisayar ve öğretim teknolojileri hakkında yayımlanan *CALICO* ve *Teaching English with Technology* gibi dergiler, *teachertrainervideos.com* gibi teknolojik araçlar konusunda eğitim veren siteler, ve *EVO sessions* gibi çevrimiçi uygulama toplulukları hakkında bilgilendirmeyi amaçlamıştır. Katılımcılarla yapılan görüşmelerde, katılımcıların eğitim sırasında haberdar oldukları bu dergileri, siteleri ve toplulukları mümkün olduğunca izledikleri ortaya çıkmıştır. Katılımcıların İngilizce öğretmeni olmalarından ve içeriklerin hepsinin İngilizce dilinde yayımlanmasından dolayı, katılımcılar bu yayınları, siteleri ve toplulukları izlemede herhangi bir problem yaşamamışlardır. Birçok katılımcı, teknolojinin sınıf içi etkinliklerinde kullanılması üzerine yayımlanan dergileri izlediklerini ve ayrıca *Evo Sessions* (evosessions.pbworks.com) adı altında verilen eğitim seminerlerine çevrimiçi olarak katıldıklarını belirtmişlerdir. Katılımcılara göre, bu seminerler, katılımcılara sahip oldukları bilgilere yenisini ekleme fırsatını vermiş ve bu eğitimler sırasında yeni teknolojiler ve araçlar konusundaki tartışmalardan ve çözümlerden oldukça faydalandıklarını açıklamışlardır. Bunlara ek olarak, katılımcıların bazıları, eğitimi veren araştırmacıyla, eğitim sırasında kullanılan web sitesi aracılığıyla iletişime geçerek yaşamış oldukları sorunları ve yeni teknolojileri uygulama konusundaki görüşlerinden faydalandıklarını belirtmişlerdir. Yukarıda belirtilen açıklamalar dikkate alındığında, katılımcıların internette bulunan ve kendi gelişimlerine katkıda bulunun dergileri, web sitelerini ve çevrimiçi uygulama topluluklarını faydalı buldukları belirlenmiştir.

Ancak, yüz yüze veya harmanlanmış öğrenme ortamlarıyla uygun bir şekilde hazırlanmış hizmet içi eğitim etkinliklerinin de gerekli olduğunu belirtmişlerdir.

BÖLÜM IV

TARTIŞMA VE SONUÇ

4.1. Araştırma sorusu 1

Hizmetçindeki öğretmenlerin BDDE eğitiminde öğrenmiş oldukları bilgi, sınıf içi etkinlikleri nasıl etkilemiştir?

Veri analizi bölümündeki bulgular, katılımcıların günlüklerdeki kayıtları ve görüşmelerde vermiş oldukları cevaplar incelendiğinde, çalışma sırasında almış oldukları eğitimin, katılımcıların çeşitle BDDE içerik ve araçlarını, sınıf içi etkinliklerinde kullanımında yardımcı olduğu açıktır. Çalışma sırasında verilen eğitim, ikinci dil edimini teorilerini ve dil öğrenimi için gerekli olan en uygun şartlar arasında ilişki kurmayı amaçlamıştır. Aynı zamanda, verilen eğitim katılımcıların daha önceden almış oldukları bilgisayar derslerini dikkate alarak hazırlanmıştır. Bilgisayarın nasıl kullanılacağı, teknolojiyi sınıf içi etkinliklere etkili ve yeterli uygulamada tek başına yeterli olmamaktadır. Diğer bir ifadeyle, dil öğretmenlerinin sadece bilgi ve iletişim konusundaki yeteneklerini geliştirmek, sınıf içi etkinliklere uygulama konusunda yeterli olmamakta, ikinci dil edim teorileri ve dil öğretimi için gerekli olan şartları da dikkate alan ve bunlar arasında bağlantı kuracak teknoloji eğitimini de gerektirmektedir. Bu yüzden, bu çalışma sırasında yapılan eğitim, belirtilen konuları dikkate alarak oluşturulmuş ve böylece katılımcıların dil eğitim etkinliklerini teknolojiyle

birleřtirerek, hangi teknolojilerin iře yaradıđını ve/veya yaramadıđını göz önünde bulundurmalarını sađlamıřtır.

Çalıřmanın öncesinde, katılımcıların göreceli bilgisayar ve teknoloji uygulaması konusundaki bilgileri üzerine elde edilen veriler, katılımcıların, özellikle planlama ve öđrenme ortamları tasarımı ve deneyimlerinde kendilerini yeterli görmediklerini ortaya koymuřtur. Ancak, eđitim verildikten sonra, çalıřma öncesindeki görüşleriyle çalıřma sonrasındaki görüşleri arasındaki istatistiksel açıdan önemli farklılıklar gözlemlenmiřtir. Elde edilen veriler katılımcıların görüşlerine dayandıđı için, görüşlerindeki bu olumlu deđiřikliđin, teknolojiyi sınıflarında etkin olarak kullanıp kullanamayacaklarını açık olarak göstermemektedir. Bununla birlikte, katılımcıların yazmıř olduđu günlüklerin ve katılımcılarla yapılmıř olan görüşmelerin çözümlemeleri, katılımcıların çalıřma sonrasında görev aldıkları okullarda eđitimde kendilerine gösterilmiř olan ve ayrıca kendilerinin internette arařtırıp bulduđu araçları kullanmaya çalıřtıklarını göstermiřtir. Bu bulgu, Kessler ve Plakans (2008) tarafından da dile getirilen kendileri hakkında olumlu yeterlik görüşlerine sahip öđretmenlerin, teknolojiyi sınıf içi etkinliklerde kendilerini yeterli görmeyenlere göre daha fazla kullanacađı görüşünü desteklemektedir.

Çalıřma esnasında verilen eđitim, katılımcıların sınıflarındaki öğrencilerin dilbilgisi yanında özellikle dinleme ve yazma yeteneklerini geliřtirici teknolojik araçları kullanma konusunda katılımcılara katkıda bulunmuřtur. Öğrencilerin yanında İngilizce öđretmenlerinin de kolaylıkla ulařabildiđi ve özellikle ses ve

görüntülü içerik sunan internet siteleri bu durumun açıklaması olarak sunulabilir. Katılımcılar, ayrıca öğrenciler tarafından dinleme yeteneğinden sonraki en zor yetenek olarak kabul edilen yazma becerisini geliştirmede web günlüklerinden ve viki sayfalarından faydalanmıştır. Bu araçlar, katılımcıların öğrencilerini yazma yeteneklerini geliştirmede, duygu ve düşüncelerini açıklamada ve öğrendikleri konuları belirtmede teşvik etmelerinde faydalı olmuştur. Bu araçlar, ayrıca, ortak yazma etkinliklerinde bilgi paylaşım yeri olarak da işlevlerini yerine getirmiştir. Konuşma yeteneği etkinlikleri için *WiziQ* ve *VoiceThread* adlı web sitelerinden faydalanılmış ve bu araçların sınıf içi etkinliklerde sessiz kalan öğrencileri konuşturma yolu olarak kullanılmıştır (Öğretmen adaylarının okul deneyimi dersinde kullanmış oldukları araçlarla ilgili örnekler Tablo 5’de verilmiştir). Ancak, teknolojik imkân yetersizliği ve öğrencilerin internete ulaşamama sorunları, diğer katılımcıların bu araçları kullanmalarını engellemiştir.

Yukarıdaki açıklamalar dikkate alındığında, çeşitli sorunlara ve engellere rağmen, katılımcıların çoğunluğunun BDDE içerik ve araçlarını sınıf içi etkinliklerine uyguladıkları söylenebilir. Buna duruma açıklama olarak Thieman (2008) tarafından da belirtildiği üzere katılımcılara verilen eğitim, teknolojinin öğretim amaçlı kullanımı ve dil öğrenme için gerekli olan en uygun şartlar arasında bağlantı kurmak ve katılımcıların daha önceden almış oldukları bilgisayar dersleriyle sahip oldukları bilgi verilebilir.

Table 5. Öğretmen adaylarının okul deneyimi dersi için hazırlamış oldukları ders planlarında kullanılan araçlarla ilgili örnekler

BDDE Aracı/Materyali	Skill/Content	Uygulama
Dinleme amaçlı web siteleri (Ello ve esl-lab) Videolar (YouTube)	<i>Dinleme/Konuşma</i> (Ses dosyaları ve görüntülü ses dosyaları)	Öğretmen, Ello.org ve Esl-lab.com sitelerinde çevrimiçi olarak sunulmakta olan ses ve görüntülü ses dosyalarını kullanarak sınıf içinde uygulamak üzere materyal hazırlamıştır. Bu materyaller, çeşitli fotoğrafları ve küresel ısınma konusunda ön tartışma sorularını da içermiştir. Öğretmen, öğrencilerle birlikte, küresel ısınma konusunda yapılabilecek şeyleri tartışmışlar ve dinleme etkinlikleriyle konuyu pekiştirmişlerdir.
Derlem (jukuu ve COCA)	<i>Okuma ve Yazma/ Dil bilgisi</i> (Kelime seçimi, kullanım sıklığı ve örnek cümleler)	Öğretmen, <i>visit</i> ve <i>vary</i> gibi üniteye geçen kelimelerle ilgili öğrencilere kelime listesi ve bu kelimelerin kullanıldığı cümleleri içeren liste hazırlamıştır. Öğrenciler, bu listeyi Jukuu ve COCA sitelerinde çevrimiçi sunulan derlemleri kullanarak hazırlamışlardır. Daha sonra, öğrenciler, kelime seçimi ve bu kelimelerin kullanım sıklığını bu sitelerden kontrol etmişlerdir.
Wiki sayfaları (PBworks)	<i>Okuma ve Yazma/Dilbilgisi</i> (Ortaklaşa yazılan metinler/Ödevler)	Öğretmen, PBworks sitesini kullanarak Wiki sayfasını oluşturmuş ve sonunun öğrencilere bırakıldığı bir hikâyeyi yayınlamıştır. Öğrenciler ikili ve gruplar halinde sayfada yayınlanan hikâyenin sonucunu kendilerine göre oluşturmuşlardır. Daha sonra, öğrenciler tarafından yazılan bölümler tartışılmış ve öğretmen bu bölümler hakkında dilbilgisiyle ve kelime seçimiyle ilgili geri dönüt vermiştir.
Çevrimiçi Sözlükler (Cambridge ve Macmillan tarafından çevrimiçi sunulan sözlükler)	<i>Okuma ve Yazma/Dilbilgisi</i> (Kelime öğrenme uygulamaları ve alıştırma sayfaları)	Öğretmen, öğrencilerinden <i>Cambridge</i> ve <i>Mamillan</i> yayınevleri tarafından İnternette çevrimiçi olarak sunulan sözlükleri kullanarak İngilizce kelimelerinin eş anlamlarıyla ilgili çalışma sayfaları hazırlamalarını sağlamıştır. Bu çalışma sayfalarını öğrenciler birbirleriyle değiştirerek ev ödevi olarak kullanmışlardır.
Soru Hazırlama Programları (QuizFaber ve QuizStar)	<i>Dinleme/Okuma</i> (Kelime, okuma ve dinleme çalışmaları)	Öğretmen, <i>QuizFaber</i> soru hazırlama programını kullanarak, öğrencilerin daha önce okumuş ve sınıf içinde tartışmış olduğu hikâyede geçen kelimelerle ilgili alıştırma hazırlamıştır. Bu alıştırmada, hikâyede özellikle vurgulanan kelimeler ve ifadeler yer almıştır.
PowerPoint programının sunum ve soru hazırlama aracı olarak kullanılması)	<i>Okuma, Konuşma ve Yazma/Dilbilgisi</i> (<i>Resimler ve cümleler</i>)	Öğretmen, PowerPoint programını kullanarak, eşleştirme etkinliği içeren bir oyun hazırlamıştır. Bu etkinlikte, öğrencilere çeşitli resimlerle birlikte cümleler verilmiş ve öğrencilerden bu resimleri en iyi anlatan cümleleri seçmeleri istenmiştir.

4.2. Araştırma Sorusu 2

İngilizce öğretmenlerinin BDDE araçlarını sınıf içi etkinliklerinde kullanımını etkileyen etmenler nelerdir?

Katılımcılar tarafından tutulan günlüklerin, çalıştıkları okullar hakkındaki anketlere verilen yanıtların ve yapılan görüşmelerin incelemeleri, BDDE içerik ve araçlarının sınıf içi dil öğretimi ve eğitimi etkinliklerinde kullanılmasını engelleyen veya sınırlandıran etkenlerin, çalışılan okulların, izlencelerin ve ülke çapında uygulanan sınavların olduğunu göstermiştir. Bu bulgu, teknoloji kullanımı engelleyen etkenlerin genel olarak okullardaki teknolojik imkânların veya desteğin sınırlılığının ana faktör olduğunun (Gillespie, 2006; Smerden et al, 2000; Egbert, Paulus ve Namamichi, 2002; Bingimlas, 2009; Atal ve Usluel, 2011) düşünülmesi açısından ilginçtir. Ancak, bu çalışmada yer alan katılımcıların çalıştığı okulların hepsinde sınıflar en az bir bilgisayar ve yansıtım aracıyla donanmıştır ve bazı sınıflarda 2 ile 3 arasında değişen sayıda bilgisayar bulunmaktadır. Okulların sahip oldukları teknolojik araçların, izlence ve ülke çapında uygulanan sınavların yanında, okulun teknoloji ile ilgili tutumu da önemli bir yer teşkil etmektedir. Devlet okullarında çalışan katılımcıların hemen hepsi, okul idaresi tarafından yeteri kadar teşvik görmediklerini ve teknik desteğin olmadığından yakınmışlardır. Ancak, özel kurumlarda çalışan katılımcılar ise daha çok zaman baskısından ve ülke çapında uygulanan sınavlardan şikâyetçi olmuşlardır. Bu durum, Türkiye’de uygulanan üniversite giriş sınavıyla ilişkilendirilebilir. Türkiye’de üniversiteye lisans düzeyinde

eđitim almak iin girmek isteyen lise mezunu đrenciler, lme, Seme ve Yerleřtirme Merkezi (SYM) merkezi tarafından hazırlanan ve lke apında uygulanan sınavla girmek zorundadır ve drt yıl sren lise eđitimi izlencelerinden sorumludurlar. Ancak, sebebi bilinmemekle birlikte, İngilizcenin lise izlencesinde yer almasına karřın, sınavda İngilizce ile ilgili herhangi bir soru bulunmamaktadır. Karakaya (2010) tarafından sunulan bulgularla uyumlu olarak, bu durum, dersin etkileřimli veya teknolojik aralarla zenginleřtirilmiř olup olmadığına bakmaksızın derse katılım gstermeyen đrencileri olan katılımcıları zor durumda bırakmıřtır.

4.3. ıkarımlar

Verilerin analizi ve yapılan tartıřmalar dikkate alındığında, ařađıdaki eđitsel ıkarımlar sunulabilir:

1. Trkiye’de yabancı dil đretmen yetiřtiren blmlerin izlencelerine, İngilizce dil đretimi ve đrenimi zerine teknoloji btnlemesi yapılmıř bir ders eklenmelidir. İngilizce yntem ve yaklařım ders eđitimlerinin ilgili dneme kadar tamamlanması, bu dersin, İngilizce đretmen adaylarının lisans izlencelerinde zellikle 6. dnemde verilmesi gereklidir. Ancak, đretmen adaylarına, teknolojinin sınıflarda uygulanması eđitiminin verilmesinden nce, bilgisayarları uygun ve rahat bir řekilde kullanmalarını sađlayacak gerekli beceriler đretilmelidir. Bu řekilde, bilgisayarlara karřı olası olumsuz yaklařımlar ve korkuların ortadan kaldırılması sađlanabilecektir. Bu beceriler, bilgi ve iletiřim

teknolojilerinin gerektirdiđi temel özellikler üzerinde yoğunlaşarak ve özellikle Öğretim Teknolojileri ve Eğitim Gereçleri Geliştirilmesi dersiyle mümkün kılınabilir.

2. Öğrenen adaylarına verilecek bu ders, daha önce verilen bilgisayar derslerine dayandırılarak verilmelidir ve özellikle Lei (2009) tarafından da vurgulandığı üzere, öğretmen adaylarının alanlarında kullanacakları teknolojileri göz önünde bulundurmalıdır. Diğer bir ifadeyle, ilgili ders, İngilizce dil eğitimini, yöntemini, ikinci dil edinim teorilerini ve dil öğrenimi için gerekli en uygun şartları dikkate olarak, öğretmen adaylarını değişik teknolojileri kullanmaya teşvik etmelidir. Bu durum, bölümlerdeki bütün öğretim elemanlarının etkin katılımıyla başarılabilir (Berger ve Thomas, 2011). İngilizce dil öğretimi ve öğrenimi üzerine eğitim veren öğretim elemanları, teknolojinin sınıf içinde kullanımını özendirilmeli ve öğrenciler için teknoloji kullanımı konusunda model olmalıdırlar (Larose, 2009; Meagher, Özgün-Koca ve Edwards, 2011).
3. Öğretmen adayları, teknolojinin sınıf içi etkinliklerini anlamlı bir şekilde desteklediğinde kullanılması gerektiğinin farkında olmalıdırlar. Öğretim teknolojinin nasıl çalıştığını ve bizlere yardımcı olacağını çok iyi anlamaları gereklidir (Collins ve Halverson, 2010). Buradaki önemli nokta, teknolojinin veya özel bir teknolojik aracın kullanımı konusu değildir. Önemli olan, ilgili teknolojinin dil öğrenme ve öğretme sürecini iyileştirmede nasıl kullanılacağıdır. Wastson'ın (2010, sf. 162) da

belirttiği üzere, “Bilgisayarlar, düşünme sürecimize yardımcı olan araçlardır; bizleri düşünmekten alı koyan araçlar değildir.”

4. Daha önceden herhangi bir BDDE eğitimi almayan ve/veya teknolojinin sınıf içi etkinliklere uygulanması konusunda kendisini yeterli görmeyen öğretmen adayları ve öğretmenler, yüz yüze ve/veya çevrimiçi eğitim etkinliklerine katılmalıdır. Çevrimiçi etkinlikler sayesinde, bu etkinlikler uygun ve etkili bir şekilde yapılırsa, birçok İngilizce Öğretmeni bu eğitimlerden faydalanabilmektedir ve çevrimiçi yapılan bu eğitimler oldukça kullanışlı ve ekonomik kullanım etkinliğine sahiptirler.

Son söz olarak, dil öğretmenlerinin teknolojiyi etkili ve başarılı bir şekilde kullanmaları, eğitim fakültelerinin izlencelerinde teknoloji derslerine vereceği öneme, Yüksek Öğretim Kurulu ve Milli Eğitim Bakanlığı tarafından düzenlenecek hizmetçi eğitim etkinliklerinin ve lisans izlencelerindeki değişikliklerin uygulanmasına bağlıdır. Bu çalışmada yer alan günlükler ve görüşmeler üzerinde yapılan incelemelerin gösterdiği üzere, öğretmen adaylarına, alanlarıyla ilgili teknolojinin nasıl kullanılacağı eğitimi verilirse ve aynı zamanda bu konuda kendilerini destekleyecek bir ortam sunulursa, karşılaştıkları ve/veya karşılaşacakları zorluk ve sorunlarla mücadele edebilmektedirler. Önemli nokta, Mercer (2012, sf. 28) tarafından da dile getirildiği gibi, kendilerine bunu yapacak fırsatın verilmesidir:

.... Günümüzdeki karşı konulmaz yönelim, her öğrencinin, kendisine uygun ortam ve desteğin sağlanması koşuluyla ve kendisini zaman ayırmaya, çaba göstermeye ve devamlı uygulama yapmaya gönüllü hissetmesiyle, kendini ve yeteneklerini geliştirme ve hatta beklenilenin daha ötesine gitme yeterliliğine sahip olduğunu kabul etmektir.

4.4. Gelecekteki çalışma önerileri

Bu çalışmada yer alan katılımcılar, rastgele örneklem kullanılarak seçilmemiştir. Bunun yerine, kolayda örnekleme yöntemine göre seçilmiş katılımcılar çalışmada yer almıştır. Bu yüzden, çalışma sonucunda elde edilen verilerin geçerliliği dikkate alındığında, örneklem sayısının artırılarak ve rastgele örneklem yöntemi kullanılarak bu çalışma tekrarlanabilir. Aynı zamanda, bu çalışmada yer alan eğitim etkinlik ve içeriklerinde, Second Life gibi sanal ortamlara ve değişken ortam etkinliklerine yer verilmemiştir. Gelecekte yapılacak çalışmalar, bu konuları da uygulayacakları eğitime ekleyebilirler. Ek olarak, çalışmada yer alan katılımcıların, sağlamış oldukları verilerin çalışmakta oldukları okulların özel ve devlet okulu olmalarına göre değişiklik gösterdiği tespit edilmiştir. Dolayısıyla, gelecekteki çalışmalar bu noktayı da dikkate olarak, teknoloji kullanımının özel ve devlet okullarındaki uygulama farklılıklarını da inceleme altına alabilirler. Araştırmacı, verilerin analizinde katılımcıların sağlamış olduğu yanıtları ve günlükleri dikkate almıştır. Ancak, teknolojiyi sınıfta nasıl kullandıklarını nesnel olarak belirlemek için katılımcıların sınıf içi etkinliklerini video kamerayla kayıt altına alamamıştır. Dolayısıyla, gelecekteki çalışmalar, katılımcıların belirtmiş oldukları durumlar

sınıf ii etkinliklerini kayıt altına alarak aralarında karřılařtırma yapabilir. Bylece teknolojinin sınıf ii etkinliklerinde nasıl kullanıldıđına dair daha nesnel sonular elde edebilir.

APPENDIX J: Tez fotokopisi izin formu

TEZ FOTOKOPİSİ İZİN FORMU

ENSTİTÜ

- Fen Bilimleri Enstitüsü
- Sosyal Bilimler Enstitüsü
- Uygulamalı Matematik Enstitüsü
- Enformatik Enstitüsü
- Deniz Bilimleri Enstitüsü

YAZARIN

Soyadı : Kılıçkaya
Adı : Ferit
Bölümü : Yabancı Diller Eğitimi Bölümü- İngiliz Dili Öğretimi ABD

TEZİN ADI (İngilizce) : The Impact of CALL Instruction on English Language Teachers' Use of Technology in Language Teaching

TEZİN TÜRÜ : Yüksek Lisans Doktora

1. Tezimin tamamından kaynak gösterilmek şartıyla fotokopi alınabilir.
2. Tezimin içindekiler sayfası, özet, indeks sayfalarından ve/veya bir bölümünden kaynak gösterilmek şartıyla fotokopi alınabilir.
3. Tezimden bir (1) yıl süreyle fotokopi alınamaz.

TEZİN KÜTÜPHANEYE TESLİM TARİHİ: