T.C.

DİCLE ÜNİVERSİTESİ

EĞİTİM BİLİMLERİ ENSTİTÜSÜ

İNGİLİZ DİLİ EĞİTİMİ ANABİLİM DALI

BİLGİSAYAR VE CEP TELEFONU YARDIMI İLE KULLANILAN DİL ÖĞRENME STRATEJİLERİNİN İNCELENMESİ

Fatma HAYTA

YÜKSEK LİSANS TEZİ

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Tez Danışmanı: Doç. Dr. Nilüfer BEKLEYEN

YÜKSEK LİSANS TEZİ

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DICLE UNIVERSITY

GRADUATE SCHOOL OF EDUCATIONAL SCIENCES

ENGLISH LANGUAGE TEACHING DEPARTMENT

AN EXAMINATION OF LANGUAGE LEARNING STRATEGIES WITH REFERENCE TO COMPUTER AND MOBILE PHONE TECHNOLOGY

Fatma HAYTA

Supervisor: Assoc. Prof. Dr. Nilüfer BEKLEYEN

MASTER'S THESIS

DİYARBAKIR/April, 2014

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TABLE OF CONTENTS

ABSTRACT xi
ÖZ xiii
TABLE OF CONTENTS vii
LIST OF TABLES xv
LIST OF FIGURES xvii
LIST OF APPENDICES xviii

CHAPTER ONE
INTRODUCTION

1.1.Introduction 1
1.2. Statement of the Problem 3
1.3. Purpose of the Study 3
1.4. Significance of the Study 4
1.5. Limitations of the Study 5
1.6. Research Questions 5
1.7. Definitions of Key Terms and Abbreviations 5

CHAPTER TWO
LITERATURE REVIEW

2.1. Introduction 7
2.2. Background of Studies Related to Language Learning Strategies 8
2.3. Definitions of Language Learning Strategies 9
2.4. Taxonomies of Language Learning Strategies 11
2.4.1. Rubin's Taxonomy 11
2.4.2. O'Malley &Chamot's Taxonomy 12
2.4.3. Oxford's Taxonomy 14
2.5. Data Collection Tools for Measuring Learner Strategies 19
2.6. Previous Studies on Language Learning Strategies 21

2.7. Language Learning and Technology 28
2.7.1. Computer Assisted Language Learning (CALL) 28
2.7.1.1. An Overview of the History of CALL 29
2.7.1.2. Benefits of Integrating Computer Technologies into Language Learning Process 31
2.7.2. Mobile Assisted Language Learning (MALL) 36
2.7.2.1. Benefits of Integrating Mobile Technologies into Language Learning Process 38
2.8. Challenges of Using Technology (Computer Technology and Mobile Technology) in Language Learning Process 42
2.9. Previous Studies on CALL 44
2.10. Previous Studies on MALL 49
2.11. Previous Studies on Learning Strategies in Technology-enhanced Language Learning Context 50

CHAPTER THREE

METHODOLOGY

3.1.Introduction 51
3.2. Research Design 51
3.3. Participants of the Study 52
3.4. Data Collection Tools 52
3.4.1. The Questionnaire 54
3.4.1.1. Development &Implementation &Piloting the Questionnaire 54
3.4.2. The Interview 56
3.4.2.1. Development &Implementation of the Interview 56
3.5. Data Collection Procedure 57
3.6. Data Analysis 58

CHAPTER FOUR

RESULTS

4.1. Introduction 60
4.2. Questionnaire Results 60

4.2.1. Demographic Characteristics of the Participants 60
4.2.1.1. Gender and Age 60
4.2.1.2. Students' Perceived Level of English Proficiency 61
4.2.1.3. Frequency of Computer and Mobile Phone Use 61
4.2.1.4. Frequency of Internet Use per Week 62
4.2.1.5. Internet Access 63
4.2.1.6. Computer and Mobile Phone Ownership 63
4.2.2. Descriptive Statistics 64
4.2.2.1. Language Learning Strategies Used by Students via Computer and the Internet Technology 65
4.2.2.1.1. Cognitive Strategies 65
4.2.2.1.2. Memory Strategies 66
4.2.2.1.3. Compensation Strategies 67
4.2.2.1.4. Metacognitive Strategies 67
4.2.2.1.5. Affective Strategies 68
4.2.2.1.6. Social Strategies 69
4.2.2.2. Language Learning Strategies Used by Students via Mobile Phone and the Internet Technology 70
4.2.2.2.1. Cognitive Strategies 70
4.2.2.2.2. Memory Strategies 71
4.2.2.2.3. Compensation Strategies 72
4.2.2.2.4. Metacognitive Strategies 72
4.2.2.2.5. Affective Strategies 73
4.2.2.2.6. Social Strategies 74
4.2.3. Inferential Statistics 75
4.2.3.1. Gender Differences in the Use of Learning Strategies 75
4.2.3.2. The Difference between Strategy Use via Computers and the Internet and via Mobile Phones and the Internet Technology 76
4.2.3.3. The Difference between Types of Mobile Phones Owned by the Students and the Use of Learning Strategies 76

4.3. Interview Results 77
4.3.1. Technological Tools Commonly Used by the Learners of English 78
4.3.2. Using Technological Tools to Enhance Language Skills 79
4.3.3. Using Technological Tools to Improve Grammar, Vocabulary and Pronunciation 82

CHAPTER FIVE

DISCUSSION

5.1. Introduction 85
5.2. Answers to the Research Questions 85
5.2.1.Research Question 1 86
5.2.2. Research Question 2 88
5.2.3.Research Question 3 90
5.2.4.Research Question 4 91
5.2.5.Research Question 5 92

CHAPTER SIX

CONCLUSIONS AND SUGGESTIONS

6.1. Introduction 95
6.2. Conclusion and Recommendations 95
6.3. Pedagogical Implications 97
6.4. Suggestions for Future Research 98

ABSTRACT

AN EXAMINATION OF LANGUAGE LEARNING STRATEGIES WITH REFERENCE TO COMPUTER AND MOBILE PHONE TECHNOLOGY

Fatma HAYTA

Master's Thesis, English Language Teaching

Supervisor: Assoc. Prof. Dr. Nilüfer BEKLEYEN

Language learning strategies (LLSs) refer to the behaviours, steps, or techniques that language learners apply to facilitate the language learning process. Language learners tend to use these strategies to acquire, store or recall information during the language learning process. Thanks to the improvements in technology, LLSs have been subjected to substantial changes. The present study aims at identifying the LLSs that language learners employ by means of computers and mobile phones with Internet access. A special focus has been made to the Internet, since it is an indispensable part of computer and mobile phone technology.

The present study was carried out at a state university in Turkey. The participants included undergraduate students majoring in teaching English as a Foreign Language. A total of 75 first and second grade students volunteered to take part in the study. A mixed method including both quantitative and qualitative data collection tools was used in the study. First, a questionnaire was developed to find out the language learning strategies that were administered by means of technology. To find out whether the students used their computers or mobile phones to employ these strategies, two versions of the same questionnaire were employed. While 75 students from two classes (freshman and sophomore students) within the same department voluntarily filled in the questionnaires designed by the researcher, 10 students who had the highest questionnaire scores were

chosen for the interview, which was conducted a few weeks after the implementation of the questionnaires. The questionnaires were analyzed through SPSS 17.0 whereas the interviews were analyzed via content analysis.

The results obtained through questionnaires and semi-structured interviews indicated that Affective Strategies were the most frequently used strategies by the students via both computers and mobile phones while Social Strategies were the least preferred ones exploited by the participants through the technological means mentioned above. Although no significant difference was found between gender and strategy use, it was revealed that female students benefited from the LLSs more frequently than males. It was also ascertained that, in general, learners made use of computers more often than mobile phones while learning English. Lastly, it was found that there was not a significant difference between students owning smartphones and students having cell phones in terms of the LLSs they used although it was found that learners who had smartphones made use of the LLSs more than those with cell phones.

Key Words: Language Learning strategies, Computer Technology, Mobile Phone Technology, The Internet Technology

ÖZET

BİLGİSAYAR VE CEP TELEFONU YARDIMI İLE KULLANILAN DİL ÖĞRENME STRATEJİLERİNİN İNCELENMESİ

Fatma HAYTA

Yüksek Lisans Tezi, İngiliz Dili Eğitimi

Danışman: Doç. Dr. Nilüfer BEKLEYEN

Dil öğrenme stratejileri dil öğrencilerinin dili öğrenme sürecinde başarılı olmak için başvurdukları teknik, yol ve davranışlardır. Dil öğrencileri dil öğrenme sürecinde bilgiye ulaşmak, akılda tutmak ve hatırlamak için bu stratejileri kullanma eğilimindedirler.Teknolojik gelişmelere paralel olarak dil öğrenme stratejileride büyük ölçüde değişmiştir. Mevcut çalışma dil öğrencilerinin internet erişimli blgisayar ve cep telefonu yardımı ile kullandıkları dil öğrenme stratejilerini saptamayı amaçlar. Bilgisayar ve cep telefonu teknolojisinin ayrılmaz bir parçası olması sebebiyle internet kullanımına da özellikle değinildi.

Bu çalışma Türkiye'de bir devlet üniversitesinde yürütülmüştür. Katılımcılar İngilizce öğretmenliği bölümü öğrencilerinden oluşmaktadır. Toplamda üniversite birinci ve ikinci sınıfa devam eden 75 öğrenci gönüllü olarak çalışmada yer aldı. Bu çalışmada nitel ve nicel veri toplama araçlarını kapsayan karma metod kullanıldı. İlk olarak teknoloji vasıtasıyla kullanılan dil öğrenme stratejilerini saptamak için bir ölçek geliştirildi. Öğrencilerin stratejileri kulanmak için bilgisayarı mı yoksa cep telefonunu mu tercih ettiklerini bulmak için aynı ölçeğin iki ayrı versiyonu uygulandı. Araştırmacı tarafından geliştirilen ölçeği aynı bölümden birinci ve ikinci sınıf öğrencileri gönüllü olarak doldururken dil öğrenme stratejilerini anket sonuçlarına göre en fazla kullandıkları saptanan 10 öğrenci ölçekleri uyguladıktan birkaç hafta sonra uygulanan mülakat için seçildi. Mülakatlar içerik analizi yöntemiyle değerlendirilirken ölçekler SPSS 17.0 ile analiz edildi.

Anketler ve yarı yapılandırılmış mülakatlardan elde edilen sonuçlar göstermiştir ki sosyal stratejiler öğrenciler tarafından bilgisayar ve cep telefonu vasıtası ile en az tercih edilen dil öğrenme stratejileri olurken duyuşsal stratejiler bahsi geçen teknolojiler yardımıyla en sık kullanılan dil öğrenme stratejileri olmuştur. Cinsiyet ve strateji kullanımı arasında önemli bir farklılık bulunmamasına karşın, kız öğrencilerin bahsi geçen teknolojiler yardımı ile dil öğrenme stratejilerini erkek öğrencilerden daha çok kullandıkları ortaya çıkmıştır. Ayrıca, genel olarak öğrencilerin İngilizce öğrenirken bilgisayarı cep telefonundan daha sık kullandıkları ortaya çıkmıştır. Son olarak, akıllı telefonu olan öğrencilerin dil öğrenme stratejilerini standart cep telefonu olan öğrencilerden daha çok kullanmalarına karşın, öğrencilerin sahip olduğu cep telefonlarının modeli (çeşit) ile kullandıkları dil öğrenme stratejileri arasında anlamlı bir farklılık bulunamamıştır.

Anahtar Kelimeler: Dil Öğrenme Stratejileri, Bilgisayar Teknolojisi, Cep Telefonu Teknolojisi, İnternet Teknolojisi.

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LIST OF TABLES

Table 1. Terminology Comparisons between e- and m-learning 37
Table 2. Steps in Carrying out a Questionnaire Survey 55
Table 3. Percentage of the Participants in Terms of Gender 60
Table 4. Percentage of the Participants in Terms of Age 61
Table 5. Students' Perceived Level of English Proficiency 61
Table 6. Accessing the Internet 63
Table 7. Computer Ownership 63
Table 8. Mobile Phone Ownership 64
Table 9. Cognitive Strategies Used by Learners via Computers and the Internet Technology 66
Table 10. Memory Strategies Used by Learners via Computers and the Internet Technology 67
Table 11. Compensation Strategies Used by Learners via Computers and the Internet Technology 67
Table 12. Metacognitive Strategies Used by Learners via Computers and the Internet Technology 68
Table 13. Affective Strategies Used by Learners via Computers and the Internet Technology 69
Table 14. Social Strategies Used by Learners via Computers and the Internet Technology 69
Table 15. Cognitive Strategies Used by Learners via Mobile Phones and the Internet Technology 71
Table 16. Memory Strategies Used by Learners via Mobile Phones and the Internet Technology 72
Table 17. Compensation Strategies Used by Learners via Mobile phones and the Internet Technology 72
Table 18. Metacognitive Strategies Used by Learners via Mobile Phones and the Internet Technology 73
Table 19. Affective Strategies Used by Learners via Mobile Phones and the Internet Technology 74
Table 20. Social Strategies Used by Learners via Mobile Phones and the Internet

Technology 74

Table 21. Independent Samples t-test for Gender Differences in the Use of Learning Strategies via Computers and the Internet Technology 75

Table 22. Independent Samples t-test for Gender Differences in the Use of Learning Strategies via Mobile Phones and the Internet Technology 75

Table 23. Paired-Samples t-test Results for the Difference between use of Computers and the Internet and Mobile phones and the Internet 76

Table 24. Independent Samples t-test for Mobile Phone Differences in the Use of Learning Strategies via Computers and the Internet Technology 77

Table 25. Independent Samples t-test for Mobile Phone Differences in the Use of Learning Strategies via Mobile Phones and the Internet Technology 77

LIST OF FIGURES

Figure 1. Rubin's Taxonomy 12

Figure 2. O'Malley's Taxonomy 13

Figure 3. Direct Strategies 16

Figure 4. Indirect Strategies 17

Figure 5. Mixed Method 53

Figure 6. Frequency of Computer Use While Learning English 62

Figure 7. Frequency of Mobile Phone Use While Learning English 62

Figure 8. Frequency of Internet Use per Week 63

Figure 9. Connecting to the Internet via Mobile Phones 64

Figure 10. Language Learning Strategies Used by EFL Students via Computer and the Internet Technology 65

Figure 11. Language Learning Strategies Used by EFL Students via Mobile Phone and the Internet Technology 70

Figure 12. Mobile Learning 92

Figure 13. Essential Attributes of Mobile Learning 97

LIST OF APPENDICES

Appendix 1. Questionnaires-English Version 116

Appendix 2. Questionnaires-Turkish Version 122

Appendix 3. Interview Questions-English Version 128

Appendix 4. Interview Questions-Turkish Version 128

CHAPTER ONE

INTRODUCTION

1.1. Introduction

The attempts for integrating technology into language teaching classes have been the turning point in the fields of ESL and EFL changing the roles of both teachers and learners along with the contemporary trends adopted in foreign language teaching. In that respect, modern technology has gained great attention among the researchers over the last few decades, and various studies have confirmed that emerging technologies have contributed positively to both foreign language learning and teaching in many aspects from enriching learning process with a vast amount of authentic materials to providing opportunities for learners to maintain their learning beyond the classroom (Fitzpatrick, 2004). It is highly acknowledged that changes in both technology and language teaching have supported each other bringing new concepts to the relevant literature (Warschauer, 2000). Probably, the most significant notions which were gained to the relevant literature were Computer Assisted Language Learning (CALL) and Mobile Assisted Language Learning (MALL) which emerged as a part of CALL. To begin with CALL (Computer Assisted Language Learning), it has improved consistently with new concepts including ICT (Information and Communication Technology), Web-based distance learning, CMC (Computer-mediated Communication), MALL (Mobile-assisted Language Learning), and Language Learning in Virtual worlds (Beatty, 2003), which has facilitated foreign language learning through enabling students to practice the target language in genuine contexts. MALL which also needs consideration in the relevant field has recently become popular among the current generation with the widespread ownership and use of mobile devices including smart phones and tablet PCs which are multi-functioned. Besides, the potential of such devices for language learning has stimulated researchers to investigate use of these devices in language learning. Being portable and practical, mobile devices were found to increase quality of interaction and access to different learning contexts (Kukulska-Hulme &Shield, 2008 cited in Kukulska-Hulme, 2009). This study explores language learning strategies exploited by students using computer technology, mobile phone technology, and the Internet technology.

Language learning strategies, the other aspect of the study, is a relatively old subject derived from searching of the characteristics of a good language learner, and has been given great consideration as it has been believed to play an important role in learning English through promoting individualized learning which consolidates classroom learning (Oxford, 2003). A good many studies were conducted related to LLSs, which confirmed that using LLSs have somehow facilitated language learning. More importantly, LLSs were ranked among the predictors of success in language learning process. Exploring qualities of good language learners, Nunan (1989; Nunan, 1991 cited in Nunan, 1995) found out that increasing exposure to the target language through using it beyond school hours contributed to learners' success to a certain extent. Simply put, students practicing language outside of the classroom were found to be more competent users of the target language. Gaining competence in the target language requires a lot of practice, which means learners also have several responsibilities for their own learning since they have limited time and therefore, limited opportunities to practice the target language in the classroom. Therefore, developing language learning strategies are crucial for language students. They support classroom learning besides helping students develop autonomy in language learning, which is acknowledged as one of the most significant attributes of a successful language learner.

Being the ultimate goal of most of the current educational trends, autonomous learning refers to a kind of learning context where learners, but not the teachers, are at the center of the learning process taking responsibility for their own learning, which will likely result in the following favourable outcomes:

-commitment to the learning process,
-higher motivation to get involved in the learning process.

Therefore, the role of LLSs in language learning cannot be underestimated in the present learner-centered pedagogy. Mostly being conscious activities, LLSs allow learners to keep track of their learning in a planned and organized way with the purpose of achieving specific learning goals which were determined by the learners' themselves. Learning in that way is highly individualized and engaging since learners have their own choices to adopt while learning the target language. However, this does not mean that there is no need for teachers. They also have several crucial responsibilities such as training students to use

appropriate strategies in an effective way and providing support and guidance for the students during the learning process.

1.2. Statement of the Problem

Learning a language is a long and challenging process which requires a great deal of patience and perseverance as learners need to be involved in the learning process with their whole personality (Williams &Burden, 1999; Brown, 2007). In EFL context, it becomes a bit more difficult as students have less or no opportunity to encounter the language. Therefore, it is important to ensure that students are exposed to the language as much as possible. At this point, there is much to do for students taking responsibility for their learning beyond the classroom, as they have limited time to spend with their teachers. To achieve their goals in language learning, students need to develop some strategies to consolidate their learning. Actually, many students use some strategies while learning English consciously or unconsciously (Oxford, 1990). However, the rise of technology in education has changed the way we teach and the way we learn. The major novelty that technology brought to education was that it promoted self-learning providing a vast amount of sources for students. Therefore, there has been a growing tendency among students toward using technological devices and the Internet to enhance their learning. This study attempts to explore how they benefit from computer and mobile phone technology with and without an Internet connection while conducting learning activities on their own.

1.3. Purpose of the Study

The purpose of the present study was to investigate language learning strategies (LLSs) used by the students. It also examined to what extent and how they benefited from computer and mobile phone technology along with the Internet while using language learning strategies. Studies showed that using effective learning strategies improved the academic performance of students (Naiman, Frolich &Todesco, 1975; Rubin &Thompson, 1982, Reiss, 1983 cited in Oxford, 1986), and several classifications of language learning strategies were proposed by different researchers. However, the advent of technology has changed the educational context considerably. As a result of this, learning strategies used by students also changed as traditional course materials were replaced by technological devices such as computers, mobile phones etc. What the technology and strategy use in

language learning process had in common was that they have both contributed considerably to learner autonomy prioritizing students' roles in the learning process (Wenden, 1985 cited in Oxford, 1986; Godwin-Jones, 2011). Ascribing responsibilities to students has enhanced the quality of language learning. In that respect, the present study focused on how language learners practiced the target language with their self-efforts via technological tools.

1.4. Significance of the Study

The participants of this study were undergraduate students studying at English Language Teaching (ELT) department of a state university in Turkey. Students who want to get higher education in English Language Teaching Department or postgraduate degree in any subject field are required to pass English exams which mainly aim to measure grammar and vocabulary knowledge, and reading comprehension. Their journey with English started in primary school, and went on in secondary school. The language courses given at these stages generally concentrated on grammar and vocabulary, and were far from meeting the requirements for preparing students to use the language effectively. They became English language teacher candidates through passing an English exam with multiple-choice questions measuring vocabulary and grammar knowledge, and reading comprehension. Although speaking and writing are also tested indirectly, there is not a listening component in the exam. In the university, language of the instruction for most courses is English. Therefore, students have the chance to use the language in the classroom through interacting with their peers and lecturers. However, this is not enough for students to master in the target language. They need to consolidate their learning beyond the classroom to be competent users of English, which means that learners need to actively get involved in the learning process through developing several strategies. Although many studies were conducted to identify language learning strategies used by students, few of them focused on learning strategies using technological devices such as computers, mobile phones etc. which are indispensable part of language learning in the current era. Most of the current educational trends suggest that teachers share their responsibilities for the learning process with their students through helping them develop effective strategies to practice the target language beyond the classroom. Considering the increasing use of emerging technologies including computers and mobile phones among the young generation, it is not difficult to say that language learning in the future will be

more individualized and long-term thanks to the technological improvements. Therefore, LLSs along with technological tools are essential for maintaining success in language learning process.

1.5. Limitations of the Study

The participants of the study included 75 undergraduate students within the department of teaching English as a Foreign Language. Therefore, the results cannot be generalized to the students studying at different universities. Moreover, it is not possible to identify all of the learning strategies performed by students since most of the learner strategies refer to learning activities beyond the classroom which are not easy to observe. In that respect, it is predicted that there are many language learning strategies employed by the language learners other than the ones reported in this study. Lastly, this study explored the use of computers and mobile phones. However, there are other technological tools which have great potential for being used in language learning including mp3 players, tablet PCs. More comprehensive studies can be conducted focusing on use of all of such devices in language learning process.

1.6.Research Questions

This study aims at finding answers to the following questions:

1-What kind of LLSs do students use while learning English through the medium of computers and the Internet technology?

2- What kind of LLSs do students use while learning English through the medium of mobile phones and the Internet technology?

3- Is there a gender related difference in the use of LLSs by means of computers and mobile phones?

4- Is there a difference between LLS use via computers and via mobile phones?

5- Is there a difference between students owning smartphones and students having cell phones in their use of LLSs via computers and via mobile phones?

1.7.Definitions of the key terms and abbreviations

LLS: Language Learning Strategy

EFL: English as a Foreign Language

ESL: English as a Second Language

CALL: Computer Assisted Language Learning

CMC: Computer Mediated Communication

MALL: Mobile Assisted Language Learning

CHAPTER TWO

LITERATURE REVIEW

2.1. Introduction

Language learning strategies, though utilized since antiquity, emerged as an issue in the relevant literature as a consequence of searching for qualities of a "good language learner" and effective ways for students to improve their learning with their self-effort (Oxford, 1990; Rubin, 1975; Stern, 1975; O'Malley &Chamot, 1990). A good many studies were conducted to identify learning strategies used by students and effects of using these strategies on their learning process, and it was recognised that using learning strategies contributed to learning process in several aspects. Zimmerman &Pons (1986, cited in Oxford, 2003) claims that using learning strategies in a regular way improves self-efficacy among students. Furthermore, Oxford (1990) asserts that using language learning strategies promotes learner autonomy which has gained great importance with the current education trend putting students at the centre of both learning and teaching process (Little, 1991; Gremmo &Riley, 1995; Lamb& Reinders, 2007).

The advent of modern technology, particularly information and communication technology has had tremendous effect on people's lives in many ways. In this respect, introducing emerging technologies to the field of education has brought new directions to teaching and learning. First of all, teacher-centered approach to education has lost its popularity since the teacher was not the only authority to teach anymore thanks to the Internet which provides a vast amount of self-access resources which are easy to reach. Moreover, learning beyond the classroom has become widely accepted and approved among both teachers and learners. These developments have changed the way students learn along with the strategies, methods that they follow due to the widespread use of technological devices including computers and mobile phones among students. This chapter was divided into two to cover all the aforementioned issues in a detailed way. In the first part, language learning strategies, their benefits and previous studies related with the topic will be explained. Besides, some widely accepted definitions and classifications will be mentioned since no consensus has been reached yet about defining, identifying, and classifying language learning strategies among researchers (Chamot, 2004; Oxford, 1990).

The second part will focus on the Computer Assisted Language Learning, Mobile Assisted Language Learning and previous studies related with both of them. Benefits and challenges of integrating computers, mobile phones and the Internet technology will also be mentioned.

2.2. Background of Studies Related to Language Learning Strategies

"A more practiced eye,
A more receptive ear,
A more fluent tongue,
A more involved heart,
A more responsive mind." (Oxford, 1990 p.9)

Studies on first language acquisition which were popular especially few decades ago stimulated researchers to explore language learners' behaviours to understand the nature of second language acquisition looking for similarities between first and second language acquisition (Naiman, Fröhlic, Stern &Todesco, 1978). Although many studies were conducted on good language learning, they were far from presenting practical solutions both for teachers and unsuccessful students. They mainly focused on the factors lying behind the learners' success such as aptitude, motivation and opportunity. However, it was recognized that it was more reasonable to investigate techniques or methods used by successful students to help less successful students become successful ones (Rubin, 1975). As a result of exploring students' differences regarding their academic success, investigators found that success depends on some cognitive, affective and sociocultural factors to a certain extent (Brown, 2000 cited in Nisbet, Tindall &Arroyo, 2005). These researches led to LLS to be labelled as one of the important factors that predict success in language learning classes (Nisbet, Tindall &Arroyo, 2005). Based on their observations and studies, researchers assert that good language learners have some specific characteristics. Although there is no absolute consensus among researchers about these characteristics, their lists are similar in many aspects. In that sense, McDonough &Shaw (2003:56) note that:

> "Success is thought to be based on such factors as checking one's performance in a language, being willing to guess and to 'take risks' with both comprehension and production, seeking out opportunities to practice, developing efficient memorizing strategies, and many others".

Rubin (1975) attributes three qualities to good language learners which he considers as significant: good learners are good at predicting, they are not afraid of making mistakes for the sake of maintaining communication, and finally, they attempt to use language actively. Embracing Rubin's list, Lightbown &Spada (1997:34) propose that good learners have the following characteristics:

- Good learners are willing and accurate guessers
- Good learners are willing to make mistakes
- Good learners try to communicate even without language
- Good learners look for patterns
- Good learners practice whenever possible
- Good learners analyse their own speech
- Good learners pay attention to their own standards
- Good learners enjoy grammar
- Good learners begin learning in childhood
- Good learners have above average IQs
- Good learners have good academic skills
- Good learners have good self-image and self-confidence.

Furthermore, Green &Oxford's study (1995) confirmed that prosperous students were better in terms of using learning strategies to perform the target language compared to unsuccessful students. Another study conducted by O'Malley and Chamot (1990) with different ability level groups revealed that most of the foreign language students somehow employ language learning strategies. However, successful students proved to use learning strategies more effectively in terms of frequency of using them and variety of the strategies they use.

2.3. Definitions of Language Learning Strategies

In this part, several definitions of learning strategies proposed by different researchers will be given to clarify the topic. However, before passing to definitions of learning strategies, the term strategy and the following related terms; style, technique and tactic which are often confused with the term strategy will be explained briefly to have a better understanding of what a strategy actually stands for. According to *Longman Dictionary of Language Teaching& Applied Linguistics* (Richards *et al.*2002:312) "a strategy is usually an intentional or potentially intentional behaviour carried out with the goal of learning" in the relevant literature. Reid (1998) highlights that style is an inborn feature which determines how an individual learns while strategy is learnable and employed by the learners to attain certain goals. Another term technique is different from strategy in that technique is a more specific term compared to strategy, and generally a

strategy includes more than one technique consisting of specific actions constituting a learning outcome (Stern, 1983). Tactic, very similar to technique and even accepted as the same with technique by some researchers (Wenden, 1987; Stern, 1983) is defined as "short-term art of using specific behaviours or devices" whereas strategy is considered as *"*long-range art of learning more easily and effectively by using major clusters of behaviours" by Oxford and Cohen (1992:4 cited in Coyle &Valcarcel, 2002).

Oxford (1990:8), one of the prominent researchers in the relevant subject defines language learning strategies as "specific actions taken by the learner to make learning easier, faster, more enjoyable, more self-directed, more effective, and more transferrable to new situations." Similarly, Rubin and Wenden (1987:19) note that language learning strategies are "any sets of operations, steps, plans, routines used by the learner to facilitate the obtaining, storage, retrieval, and the use of information." According to Wenden (1987) strategies used by learners refer to steps taken by students with the purpose of practicing the language and managing their learning process. Furthermore, she asserts that these strategies also include awareness level of students regarding how and which strategies to exploit.

O'Malley &Chamot (1990:1) argue that language learning strategies are "the special thoughts or behaviours that individuals use to help them comprehend, learn or retain new information." while Stern (1992:261 cited in Hismanoğlu, 2000) argue that "the concept of learning strategy is dependent on the assumption that learners consciously engage in activities to achieve certain goals and learning strategies can be regarded as broadly conceived intentional directions and learning techniques." According to Bialystok (1978:71 cited in O'Malley et al., 1985) language learning strategies are "optimal means for exploiting available information to improve competence in a second language." Embracing most of the opinions mentioned above, Oxford (1990:9) proposes the following characteristics that language learning strategies have:

Language learning strategies

- contribute to the main goal, communicative competence.
- allow learners to become more self-directed.
- expand the role of teachers.
- are problem oriented.
- are specific actions taken by the learner.
- involve many aspects of the learner, not just the cognitive.
- support learning both directly and indirectly.
- are not always observable.
- are often conscious.

- can be taught.
- are flexible.
- are influenced by a variety of factors.

2.4. Taxonomies of Language Learning Strategies

Although a good number of classifications regarding learning strategies were made by various scholars, they have much in common in many aspects. In this study, classifications of some of the prominent figures (Rubin, 1987; O'Malley &Chamot, 1990; Oxford, 1990) in the field will be mentioned.

2.4.1. Rubin's Taxonomy

Rubin's (1981 cited in O'Malley &Chamot, 1990) classification of learning strategies was characterized by how they contribute to language learning. Therefore, she grouped learning strategies under two main headings: direct and indirect strategies. After a challenging process in which he gathered information through observing, examining some students' written reflections on their learning (O'Malley &Chamot, 1990), Rubin (1987) categorized strategies used by learners as *Learning Strategies,* which are directly related with learning, *Communication Strategies,* which are thought to affect learning indirectly, and *Social Strategies,* which contribute to the learning indirectly.

According to Rubin (1987) learning strategies help learners improve their target language, and they are directly related with learning outcomes. They consist of two main types of strategies: Cognitive Strategies and Metacognitive Strategies. Rubin (1987) defines Cognitive Strategies as any attempt that learners make to achieve a learning goal or to find an answer to a question demanding several processes such as analysing, transforming and synthesizing. These strategies include the following categories: Clarification/Verification, Guessing/Inductive Inferencing, Deductive Reasoning, Practice, Memorization, and Monitoring. Metacognitive Strategies refer to controlling learning process and foster self-directed learning. For Rubin (1987), these strategies consist of planning, monitoring, and evaluating in general.

The second category, Communication strategies (Rubin &Wenden,1987) are related with the communication part of the learning process dealing with sending and receiving verbal messages successfully, and maintaining conversation during the process. When they are used effectively, communication strategies have a high potential to motivate students to

take part actively in their learning through communicating (Rubin, 1975). The last category consists of Social Strategies, and like Communication Strategies, they facilitate learning through providing supplementary gains. They refer to learner performances in which he/she uses the language through communicating with people, and occasions that learners make use of putting language into practice (Rubin &Wenden, 1987).

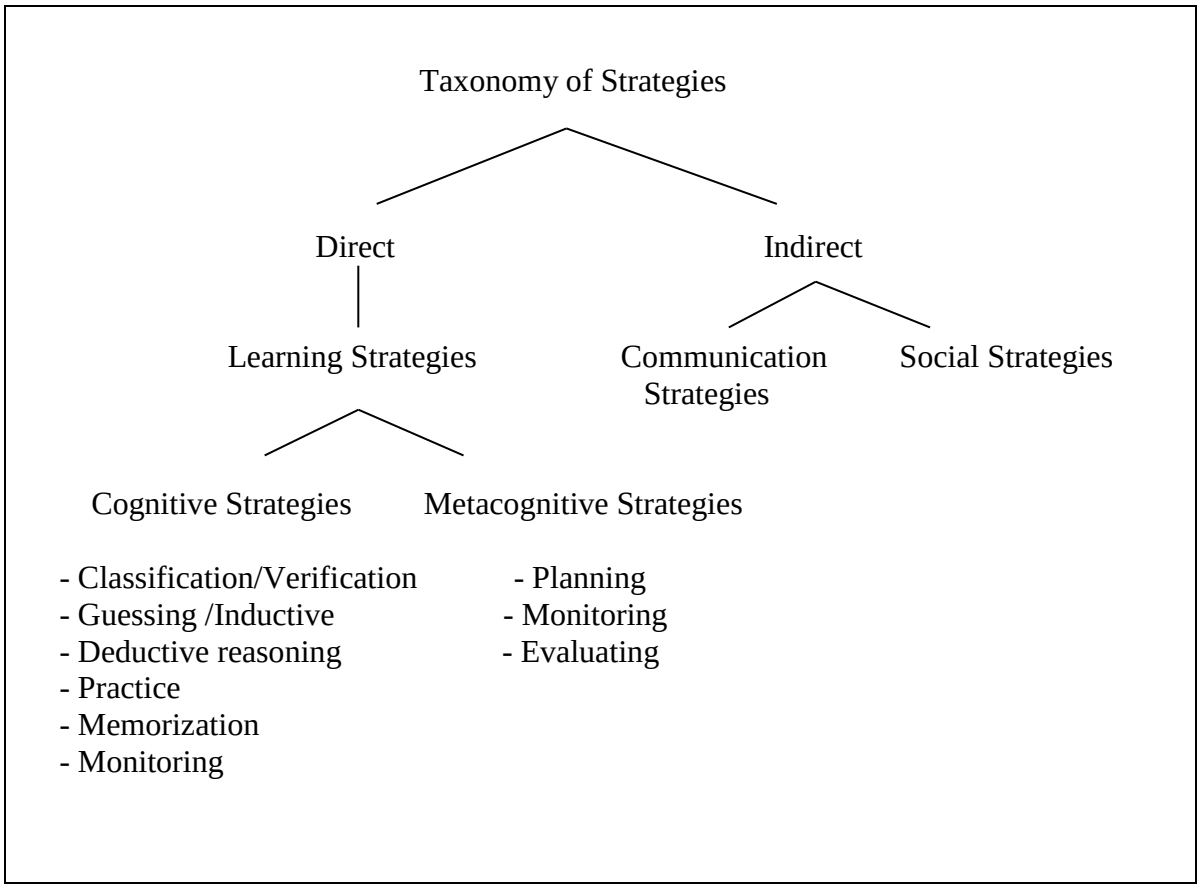

Figure 1. Rubin's Taxonomy (based on Rubin, 1987).

2.4.2. O'Malley &Chamot's taxonomy

Exploring strategies used by learners of English as a second language through interviewing with students and instructors, O'Malley *et al* (1985) identified three main kinds of learning strategies consisting of several subheadings: Metacognitive Strategies, Cognitive Strategies, and Socioaffective Strategies.

Metacognitive Strategy is a term which is related with controlling and maintaining learning process through activities such as planning, evaluating, thinking about one's own

learning etc. The following strategies are accepted as among the main Metacognitive Strategies: Selective attention, self-management, self-monitoring, and self-evaluation.

Cognitive Strategies are used for practicing language, and they immediately affect learning outcomes. These strategies mainly consist of the following ones: Repetition, Translation, Grouping, Note taking, Contextualization, Inferencing.

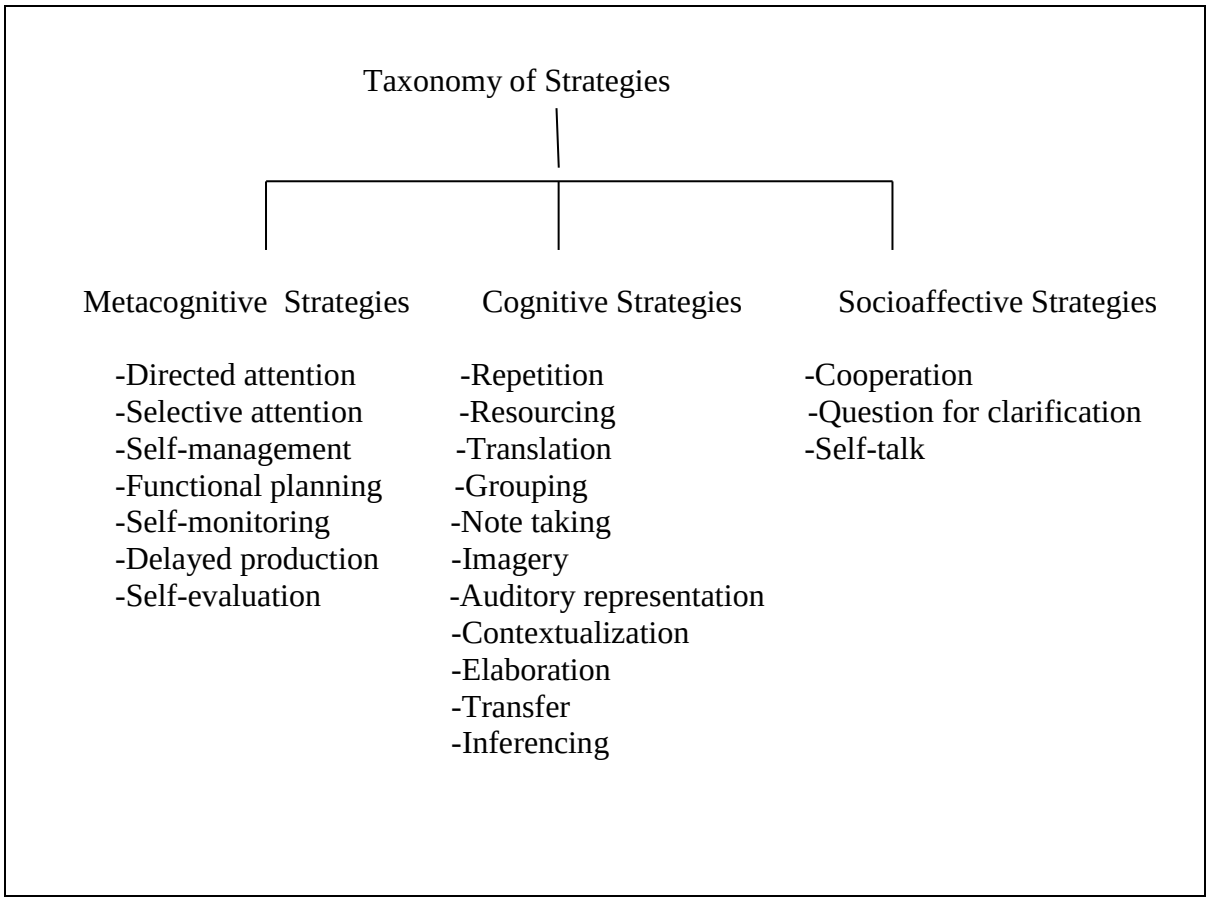

Figure 2. O'Malley's Taxonomy (based on O'Malley *et al,* 1985).

Lastly, Socioaffective Strategies refer to both social and affective sides of the language learning. It includes strategies used to communicate with others, and overcome emotional barriers experienced while learning English. Cooperation, questioning for clarification, and self-talk are among the most important Socioaffective Strategies (O'Malley *et al,* 1985).

2.4.3. Oxford's Taxonomy

Among language learning taxonomies made by a good number of scholars, it was Oxford's classification which has received remarkable attention in the relevant literature. Oxford (1990) proposed the most detailed classification which includes a wide range of strategies through expanding categories provided by several researchers beforehand.

Oxford (1990) draws a distinction between direct learning strategies and indirect ones which is similar to Rubin's (1987) categorization. These two strategies separately consist of three subcategories. Memory, Cognitive, and Compensation Strategies are accepted as direct strategies whereas Metacognitive, Affective, and Social Strategies are considered as indirect strategies. These subcategories also include 19 groups of strategies in total. Direct and indirect strategies work collaboratively, and usage of a strategy facilitates usage of another one.

Oxford (1990) regard direct strategies as performers acting in a stage play. Therefore, they pertain to actual use of the language that students learn. Demanding mental processing, direct strategies serve to diverse objectives:

Memory Strategies are defined as "techniques specifically tailored to help the learner store new information in memory and retrieve it later" (Oxford &Crookall, 1989:404). Having been known since ancient times, Memory Strategies consist of several meaningful actions including arranging things in order, making associations, and reviewing. Vocabulary learning comprises crucial part of the language learning as knowing certain amount of vocabulary leads to fluency in English. At this point, students may benefit from Memory Strategies as they provide students to use a wide range of vocabulary while speaking through accumulating and recovering them. It is obvious that Memory Strategies are the ones which are generally accompanied by a supplementary material. For instance, words or phrases can be learned through using visual materials such as pictures. However, students' learning styles determine materials they use. While it is best to associate verbal materials with sound for auditory learners, kinesthetic learners learn vocabulary better when they are joined by movements (Oxford, 1990).

Cognitive Strategies, on the other hand, refer to "skills that involve manipulation and transformation of the language in some direct way, e.g. through reasoning, analysis, note taking, functional practices in naturalistic settings, formal practice with structures and sounds, etc." (Oxford & Crookall, 1989: 404). Constituting integral part of the language learning, Cognitive Strategies play an important role in using the language effectively as

they address to practicing, receiving and sending messages, analyzing and reasoning, and creating structure for input and output in the target language. Practicing outweighs most of the other Cognitive Strategies in that practicing strategies leads to language proficiency at a satisfactory level (Oxford, 1990).

Compensation Strategies comprise the last group of strategies in this category, and Oxford &Crookall (1989:404) define these strategies as "behaviours used to compensate for missing knowledge of some kind". These strategies can be used both for comprehension and production. They are beneficial especially for incompetent learners as they aid learners in overcoming difficulties resulting from limited vocabulary or grammar knowledge. For these kinds of problems, students use guessing strategies to understand the meaning through using some linguistic and non-linguistic clues. Compensation Strategies also help learners continue producing the language no matter how complex or advanced it is, and lead to becoming fluent in the target language. While using mime or gestures is a common strategy especially used for speaking, adjusting or approximating the message, coining words, using a circumlocution or synonym are the strategies used for both speaking and informal writing (Oxford, 1990).

The second basic category consists of indirect strategies. According to Oxford (1990) main function of these strategies is to direct language learning as she claims that indirect strategies resemble the director of the play. Although they do not include activities which require direct use of the target language, indirect strategies facilitate language learning in several ways:

Metacognitive Strategies refer to "actions which go beyond purely cognitive devices, and which provide a way for learners to coordinate their own learning process." (Oxford, 1990:136). Learners need to use Metacognitive Strategies to achieve their learning goals. Strategies like paying attention and overviewing/linking with already known materials help learners maintain learning without wasting time with unknown or complicated rules, new writing systems, contemporary teaching procedures etc. Seeking practice opportunities, another Metacognitive Strategy, is considered as significant in that learning a language requires practicing a lot which is possible through self-effort for seeking for opportunities to use the target language. Students can succeed to organize their learning better with the help of other Metacognitive Strategies such as planning for a language task, setting goals and objectives etc.

Figure 3. Direct Strategies (based on Oxford's classification, 1990).

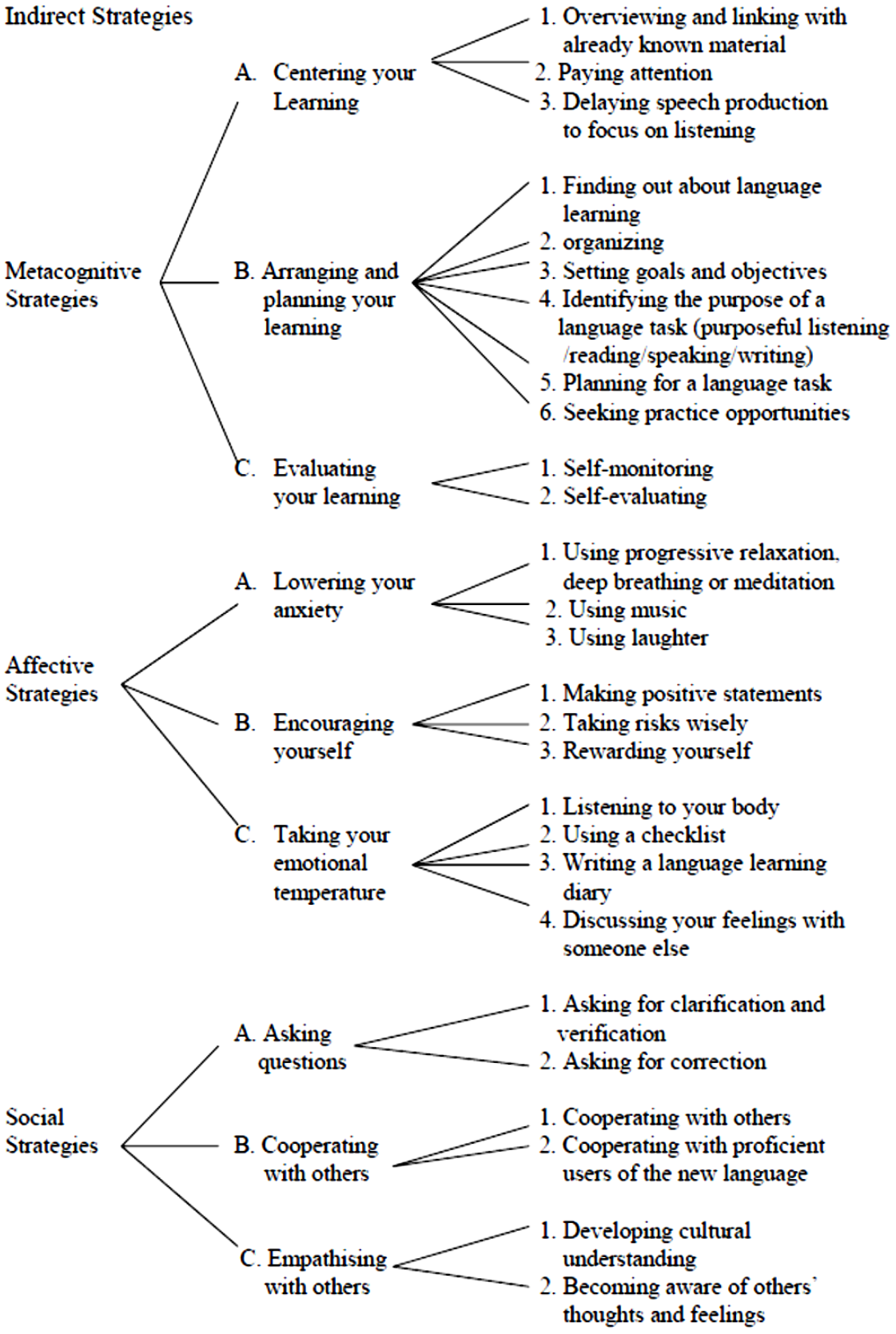

Figure 4. Indirect Strategies (based on Oxford's classification, 1990).

Affective Strategies are also indirect strategies used by language learners. According to Oxford and Crookall (1989:404) these strategies are "techniques like self-reinforcement and positive self-talk which help learners gain better control over their emotions, attitudes, and motivations related to the language learning." Attitudes and emotions play an important role in language learning. They predict both success and failure. Attitudes have also influence on students' motivation levels. Positive attitudes and high level of motivation enable learners keep their knowledge or skills for a longer period of time after the language instruction. Students need to take some risks and control their anxiety to achieve anticipated language learning outcomes. Affective Strategies like self-encouragement and anxiety-reducing strategies help learners develop positive attitudes towards language learning and increase students' motivation. Besides, these strategies encourage learners to take risks rationally, and dealing with stress and anxiety experienced while learning English (Oxford, 1990).

Social Strategies, the last group of indirect strategies, are "actions involving other people in the language learning process." (Oxford &Crookall, 1989:404). Social Strategies contribute much to language learning process as it is inevitable that students interact with others to learn English. Asking questions, one of the Social Strategies, is effective in manipulating this process successfully. Students actively participate in the learning process through both producing and comprehending the target language thanks to using these strategies. Cooperating with others is another Social Strategy which eliminates competition, and promotes 'positive interdependence' among students. Learning collaboratively is believed to lead to several favourable outcomes:

-higher self-esteem
-increased confidence and enjoyment
-use of higher-level Cognitive Strategies
-stronger language learning motivation
-more feedback about language errors
-greater use of different language functions (Oxford, 1990:146).

After a rigorous research process, Oxford (1989) developed the well-known scale called the Strategy Inventory for Language Learning (SILL) for language learners. Oxford's SILL aims to detect how students learn and deal with the target language, and it has been used widely by a great number of researchers in the fields of EFL and ESL over the last three decades (Chamot, 2004).

2.5. Data Collection Tools for Measuring Learner Strategies

It is important to note that there is no one perfect method to identify learner strategies. Several tools have been used in the present research area, and they have been reported to have both positive and negative aspects (Oxford, 1996b). Aiming at revealing learner strategies through asking students, studies in this area mostly relied on descriptive statistics (Chamot, 2004).

Questionnaires have been the most popular way of measuring learner strategies. While most researchers preferred to administer Oxford's (1990) SILL (the Strategy Inventory for Language Learning) to their subjects (Olivares-Cuhat, 2002; Oxford, 1990; 1996; Oxford &Burry-Stock, 1995; Wharton, 2000), other researchers utilized their original surveys which were improved thorough making use of assignments performed by students (Rubin &Thompson, 1994; Chamot &El-Dinary, 1999; Goh, 2002a; Fan, 2003). According to Oxford (1996b) it is feasible to evaluate a large number of learners' strategies through questionnaires, and they are practical in that they can be applied to a large group of students. However, they cannot be used to find out strategies used by students at a particular time and place as questionnaires include certain strategies chosen by the author beforehand.

Interview is also a common way of collecting data on learner strategies. There are two main types of interviews used by researchers: stimulated recall interviews and retrospective interviews. Stimulated recall interview refers to interviewing students shortly after recording their performances (Chamot, 2005). Retrospective interview, on the other hand, refers to questioning students relying on their previous learning performances (Macaro, 2001 cited in Chamot, 2005).

In *observation,* another data collection method, observer either gets involved in the task or merely observes from a certain distance. Before observing, several issues should be clarified by the investigator such as how many students are to be observed, how often and how long they are observed, the methods used for collecting, and analyzing data etc. (Cohen &Scott, 1996). However, this method is not applicable for identifying all kinds of strategies that students use as there are strategies that cannot be observed such as *reasoning, analyzing, mental self-talk etc.* (Oxford, 1996b).

Diaries and Dialogue Journals have also functioned as research tools for the present area (Chamot, 2005). In diary writing students reflect on their learning process; specific tasks, activities they perform (Cohen &Scott, 1996). Rubin argues that diaries can contribute to stimulating learners to think about their learning (2003 cited in Chamot, 2005). Dialogue Journals differ from diaries in that student reflections are read and given feedback by an expert. Diaries and dialogue journals do not have a formal structure, and they are produced by learners, so they vary greatly in terms of the topic they include (Cohen &Scott, 1996). Contrary to interviews, these methods are not appropriate for measuring common strategies used by learners. Rather, they are used to reveal strategies that learners employ during a learning activity (Oxford, 1996b).

In *Think-Aloud protocols*, learners are required to report how and what they think during the learning process. Think-Aloud sessions are videotaped to work on them for the purpose of finding out learner strategies (Chamot, 2005). Even though it is proven that this method provides insight into how students deal with learning matters, there are still several concerns about reliability of think-aloud protocol method (Chamot, 2005; Cohen &Scott, 1996). First of all, not all students are equally skilled at expressing themselves effectively as some students excel better in oral skills than some others and they are more suitable for obtaining satisfactory data during think-aloud sessions (Cohen &Scott, 1996). The language used by students during the sessions is another issue as students who are not good at speaking in the target language may be discouraged to take part in the session if they are requested to use the target language. Therefore, it is suggested that learners are allowed to choose between their first language and the target language while reporting their thoughts (Katalin, 2002). Lastly, similar to diaries and dialogue journals, think-aloud method is not practical with regard to identifying common strategies that learners use (Oxford, 1996b).

The last method that will be mentioned here is *computer tracking.* According to Cohen &Scott (1996) it is possible to collect data on learner strategies through several programs while students are working with computer. These programs can reveal how and how often students use sources such as dictionaries, corpuses, reference books while working on a task. In this way, strategies pertaining to resource use can be detected easily. However, this method is only limited to measuring a small range of strategies which requires using computers.

2.6. Previous studies on Language Learning Strategies

Researches on successful learners' strategies (Rubin, 1975; Stern, 1975) have brought a new perspective to the field of SLA drawing attention to the significant role of the students in learning process, as Ervin-Tripp (1970 cited in Rubin, 1975) suggests that learners' actions and preferences should be prioritized over language teaching materials and methods to maintain success in language learning process. Therefore, a great number of studies on language learning strategies were conducted. Earlier studies generally aimed to identify which strategies learners employ to learn the target language. Later, some researchers focused on the relationship between strategy use and other variables which affect learning process such as attitude, motivation, age, and gender etc., while some others studied effects of strategy training on language instruction.

Regarding identification of language learning strategies used by students, Wong Fillmore (1976, cited in Coyle &Valcarcel, 2002) conducted a study to explore strategies used by children whose ages range from five to seven. They were immigrant students learning English as a second language in USA. The researcher matched each learner with a child whose first language is English, and recorded how they interacted with each other for nine months with one hour for each week. After a long research process, children were found to utilize Cognitive and Social Strategies frequently, while their performance on employing Metacognitive Strategies were found to be poor. According to Wong Fillmore, children used Social Strategies as they regarded English as a tool to communicate with their peers. In another study, Liang (2009) found that college students learning English as a foreign language rarely used six main type of learning strategies proposed by Oxford (1989), employing Metacognitive and Compensation Strategies a bit more often. The author reports that students are not good at performing strategies which require communication and interaction with others as their language classes are designed to improve their reading and writing skills although they are aware of the fact that speaking comprise a crucial part of language learning process. On the other hand, students were found to be eager to improve their English through taking risks and making mistakes. Interestingly, Mattarima &Hamdan's (2011) research on high school students studying English in foreign language classrooms based on Oxford' SILL revealed that Compensation Strategies were the least popular strategies used by the learners while frequency of students' use of Metacognitive Strategies exceeded frequency of the use of

other strategies which were also proven to be used by students to a reasonable degree. Generally speaking, students were found to make good use of learning strategies in their learning processes.

It is highly proven that language learning is a complex process influenced by a lot of variables such as age, gender, motivation, language proficiency, self-efficacy, attitude, cultural context etc., and these variables play a crucial role in which strategies to use and how frequently they are used by learners (Rubin, 1975; Oxford, 1990; Ehrman &Oxford, 1988; Green &Oxford, 1995; Wong, 2005, Bonney *et al*., 2008). Therefore, there has been a shift on the focus of strategy researches dealing with factors that affect or determine strategy choice, and frequency of strategy use, while studies on identifying learner strategies have been going on in the field.

Among the variables that affect strategy use and frequency of using strategies, gender has been considered as an important one. Studies on gender differences in strategy use have led to different outcomes. Ehrman &Oxford (1989) found that female students surpassed male students in terms of employing Metacognitive and Social Strategies. A similar study conducted by Green &Oxford (1995) with a large group of undergraduate students learning English as a foreign language revealed that female students far more frequently used the following strategies than male students: Memory, Metacognitive, Affective, and Social Strategies. On the other hand, Ehrman &Oxford's (1990) study on adult students learning any foreign language at Foreign Service Institute in US revealed that gender did not have a considerable effect on strategy use. Furthermore, Nisbet *et al.* (2005) reported that most of the participants who were undergraduate students majoring in English frequently used all types of strategies proposed by Oxford but there was no significant difference between male and female students regarding appropriacy and frequency of using learning strategies.

Proficiency is another variable which has taken great consideration among researchers. A noteworthy research in the field was conducted by Vann &Abraham (1990). They explored which strategies were used and how they were used by both successful and unsuccessful students to have a deeper understanding of differences and similarities between students with high proficiency and the ones with low proficiency in terms of variety, frequency, and appropriacy of the learning strategies used by them. They gathered data through conducting a think aloud protocols and assigning four types of task (an

interview, a verb exercise, a close passage, and a composition) to the students. Based on the think aloud protocols and students' task performances, it was revealed that the range and frequency of the learning strategies used by both successful and unsuccessful learners were similar which contradicted with a good number of studies carried out in the field. However, successful learners showed a higher performance in using learning strategies appropriately, as they were more competent at managing, and controlling their learning.

Green and Oxford (1995) conducted a research with students from different course levels: Prebasic (low), Basic (middle), and Intermediate (high) level to find if there is a relationship between students' proficiency and strategy use. It was found that more proficient students used Cognitive Strategies more frequently than less proficient students. However, there was no significant difference between Basic and Intermediate students in terms of employing Compensatory, Metacognitive and Social Strategies, while each group differed from Prebasic students in using these strategies with a higher level of performance. Considering each item individually, the authors found that there was a positive and significant correlation between language proficiency and strategy use with some exceptions. Another study conducted by Mochızukı (1999) revealed that successful students tended to use Cognitive and Metacognitive Strategies more often than less successful students.

Chamot &Beard El Dinary (1999 cited in Coyle &Valcarcel, 2002) carried out a research with a group of students learning Spanish, French, and Japanese as foreign language. The study aimed to find out and compare strategies used by successful and less effective learners to deal with reading and writing tasks. Through interviewing and using think aloud protocols, it was revealed that the range of strategies used by successful students outnumbered those used by unsuccessful ones. Furthermore, effective students were superior to unsuccessful ones in that they utilized learning strategies like monitoring and inferencing more effectively and appropriately compared to unsuccessful students. Furthermore, Chu *et al*. (2012) reported that successful students surpassed less effective students in terms of variety and frequency of employing six types of learning strategies proposed by Oxford (1989), and their performance on using Cognitive, Compensation and Metacognitive Strategies overwhelmed performance of less successful students.

Authors studying age or grade factors reported different results. In their study, Ehrman &Oxford (1989) found that age did not have a considerable effect on strategy use,

whereas another variable, motivation, played a more important role in employing learning strategies. Adult learners who had career concerns were found to make use of learning strategies to a great extent. On the other hand, Zhi-Liang's (2010) study which aims to find out possible effects of undergraduate students 'grades on using vocabulary learning strategies revealed that there was a positive correlation between grade and strategy use, as high-grade students tended to study individually employing a wide range of vocabulary learning strategies while low-grade students preferred to learn traditionally simply following their teachers.

Motivation, significance of which has been widely recognized in the fields of EFL (Dörnyei, 1990) and ESL (Gardner, 1985) was also found to influence strategy use in several ways. The findings of Bonney *et al*. (2008) indicated that there was a positive correlation between students' motivation level and their strategy use. Comparing integrative and intrinsic motivation in terms of using learning strategies, they found that students who had integrative motivation had tendency towards using target language outside of the classroom, and they also made good use of the following learning strategies: Cognitive Strategies, Compensation Strategies, and Collaborative Strategies. Besides, students with intrinsic motivation were also reported to search for new ways to improve their language proficiency. Furthermore, Chun-huan (2010) conducted a study to find if there is a relationship between the three types of motivations: instrumental, situational, cultural motivation and strategy use of EFL learners. The findings revealed that motivation in general had a considerable positive effect on six types of learning strategies, especially on Cognitive Strategies, Memory, and Social Strategies. Namely, more motivated students were more effective and frequent users of learning strategies compared to less motivated ones.

In another study, Yusuf (2012) explored possible factors that predict success in language learning. The participants were two children who started learning English as a foreign language and then English became their second language as they moved to US. The feedback and certificates that they received from their school proved that participants were successful language learners. Observing and recording the language that children used, the researcher reported that they utilized various learning strategies like guessing, practicing, and taking risks etc. Besides, they were highly motivated as they had a great desire to practice English through using it in their daily lives. Carrying out probably the

most extensive study in the research field with 1200 participants, Oxford &Nyikos (1989) aimed to investigate learning strategies used by undergraduate students, and the variables which are believed to predict strategy use. They found that the strongest factor which determined strategy choice was student's motivation level.

Self-efficacy is another factor which has been studied. Wong (2005) carried out a study to investigate the relationship between learning strategies and language self-efficacy. The participants included graduate students who were English majors. Findings based on the interview and questionnaire analysis revealed that students demonstrating higher self-efficacy did better than students with lower self-efficacy in that they employed six categories of learning strategies claimed by Oxford more often and more appropriately than students with low self-efficacy did. Bonney *et al.* (2008) reported that self-efficacy had a favourable effect on strategy use in general. However, the effect of students' self-efficacy on using compensatory strategies was considerably high while no significant relationship was found between self-efficacy and practicing language outside of the classroom. Similarly, Gahungu (2009) explored possible effects of self-efficacy on strategy use among undergraduate students who attended French courses. The results showed that higher self-efficacy led to an increase in students using learning strategies.

Learning styles, affecting the use of language learning strategies, are the last variable that will be mentioned in the present research. Rossi-Le (1989) conducted a study to find out whether there is a relationship between learning styles (visual, auditory, tactile, and kinaesthetic) and learning strategies used by students. The participants included 147 adult learners of English as a second language. The findings of the study indicated that strategy choice was affected by learning styles to a certain extent. Although no significant correlation was found among all types of learning styles and six groups of learning strategies, some styles showed positive correlation with several strategies. Students with visual style preferred to use visualization strategies more often than other strategies. Besides, Metacognitive Strategies were popular among tactile learners while Memory Strategies were found to be used mostly by auditory learners. The findings of Jhaish's (2010) study revealed that kinaesthetic learners commonly used Memory Strategies, and students with social learning style made good use of Compensation Strategies. However, visual style and Compensation Strategies were found to be negatively correlated.

On the other hand, some other studies proved that learning styles did not have any considerable effect on strategy choice. Shih and Gamon (1999) attempted to find out whether the following variables; learning styles, learning strategies, motivation have any influence on learner success in on-line courses. Administering an on-line questionnaire to 99 students, the researchers found that success was not determined by learner styles, and there were not any significant correlation among motivation, learning strategies, and learning styles. Moreover, Pei-Shi's (2012) study analysing relationship between learner styles and strategies showed that learning styles' of students (visual, auditory, kinaesthetic) were not good predictors of learning strategies employed by students. Only Social Strategies were found to be affected by learning styles as auditory learners surpassed visual learners in utilizing Social Strategies.

The last group of researches in this paper focus on studies which deal with integrating strategy training into language classes to enhance the quality of learning. Oxford (1990) asserts that students can be taught learning strategies to manage their learning, and develop awareness about it. However, this view which supported Rubin's idea that indifferent students can achieve success through imitating strategies or techniques that are used by 'good language learners' was questioned by Nunan (1995) since there was still an issue to be clarified:

-Are learning strategies easily learnable or

-Are they linked to some inherent properties such as learning styles, personality traits etc.?

While some studies proved the effectiveness of strategy training in foreign language classes, some others did not get the expected results. O'Malley et al. (1985) carried out a study to identify learner strategies in an ESL classroom, and to find out whether strategy training has any effect on strategy use and learner success. To answer these questions, the researchers firstly interviewed with both students and teachers, and then, divided the class into two. While the first group received training on strategies which can be used in listening and speaking tasks, the second group did not get any training but learning tasks regarding language areas and skills mentioned above. During the strategy training part, both groups were required to perform integrative activities which demand higher order thinking skills. The findings of the study indicated that students mostly used vocabulary learning strategies, and it was followed by listening and speaking strategies. However,

students used strategies generally for simple learning activities. With regards to strategy training part, it was found that students who received training in learning strategies did better in speaking tasks than the ones who did not. In listening tasks, on the other hand, success of students relied on the complexity of the tasks, and clarity of instructions for using strategies. Strategy training did not help much in challenging listening tasks.

Rasekh &Ranjbary (2003) examined whether meta-cognitive strategy training had any impact on vocabulary learning. The participants included 53 EFL undergraduate students. Separated into two groups, students attended vocabulary courses, but only one group was trained on Metacognitive Strategies within the courses which lasted ten weeks. It was found that students with Metacognitive Strategy knowledge which they gained through training surpassed their peers in learning English vocabulary. Another study on strategy training which was conducted by Olson &Land (2007) aimed at analyzing students' reading and writing performances considering cognitive strategy instruction. The research lasted roughly eight years, and for each year participants were required to complete two writing tasks: one in autumn and one in spring as pre-test and post-test respectively. Learners' essays were evaluated by experts to compare their performances before and after instruction. It was found that students who were trained on Cognitive Strategies made great progress in writing essays. Besides, GPA and standardized test results revealed that students who employed Cognitive Strategies consciously performed better than their peers who did not get any instruction regarding Cognitive Strategies.

On the other hand, not all the studies confirmed effectiveness of training students on learning strategies. In a study conducted by Rossiter (2003) to explore the relationship between Affective Strategy training and language success among ESL students, it was found that there was not a considerable difference among students who attended training courses, and who did not in terms of their performances in completing activities related with speaking. Besides, strategy instruction did not contribute much to learners' self-efficacy beliefs. However, during interview sessions and in their reflections, it was observed that students exhibited positive attitude towards strategy instruction as they reported that training could help improve their language both in the class and outside of the classroom.

2.7. Language Learning and Technology

Being considered as a blessing, technology is a broad term applicability of which embraces a wide range of public services such as education, health care, law, military etc., and it is improving rapidly, which makes it difficult for people to follow the changes that technology undergoes (Chapelle, 2003). Yet, it has been an indispensable part of people's lives. According to Stockwell (2007:107) preferences of people for a specific technology are affected by several factors:

-Pedagogical objectives
-Institutional decisions
-Personal curiosity
-Trends and fashions

The concept of using technology in language classes has drawn great interest among researchers in the fields of EFL and ESL constituting the heart of the researches conducted for more than five decades in the relevant area. Seeing drastic improvements in technology, recent years have witnessed significant changes in the ways we teach and learn a foreign/second language. It is needless to say that changes in both technology and language teaching have supported each other bringing new concepts to the relevant literature (Warschauer, 2000).

2.7.1. Computer Assisted Language Learning (CALL)

CALL has begun to play its major role in language teaching and learning with personal computers being invented and widely used in language education (Davies, 2002). Standing for Computer Assisted Language Learning, CALL has various definitions provided by different experts.

According to Levy (1997:1) whose definition was accepted and used widely among researchers, CALL is "the search for and study of applications of the computer in language teaching and learning". However, this definition and similar ones provided by several other researchers (Hardisty &Windeatt, 1989; Beatty, 2003) have undergone several changes. Thanks to technological improvements, CALL has grown gradually in scope and functions including ICT (Information and Communication Technology), Web-based distance learning, CMC (Computer-mediated Communication), MALL (Mobile-assisted Language Learning), and Language Learning in Virtual worlds (Beatty, 2003). As a matter of fact,

Watson-Todd (2007 cited in Jarvis, 2012) notes that Computer Assisted Language Learning (CALL) has been replaced by Computer Assisted Language Use (CALU) in language pedagogy relying on growing facilities that technology has provided for learning English. In this study, CALL refers to using both computers (laptop or desktop computer) and the Internet, or only computers for both comprehension and production in the learning process.

2.7.1.1. An Overview of the History of CALL

CALL entered the relevant literature in 1960s following the computer based introductory courses held in USA, and it has been experiencing a dramatic improvement for more than five decades (Gündüz, 2005). According to Warschauer (2000), the use of computer technology in language teaching was necessarily affected by the three major theoretical movements which are Structural, Cognitive, and Socio-cognitive. In that respect, Warschauer &Kern (2000) proposed a classification for history of CALL consisting of three major parts with reference to theoretical movements mentioned above: Structural Approaches, Cognitive Approaches, and Socio-cognitive Approaches.

Structural Approaches to CALL (Structural CALL) refer to language practices with CALL based on behaviourism. According to proponents of behaviourism a language is learnt through consistent repeating which results in habit formation. In this process, learners are required to memorize a particular language form via dialogues and drills until they produce correct and automatic response (Warschauer &Kern, 2000). In 1960s and 1970s when behaviourism was on the scene for teaching and learning the target language, CALL programs consisted of mechanical exercises which mainly aimed to teach vocabulary and grammar on mainframe computers (Beatty, 2003; Zhao, 2006). Furthermore, Warschauer &Kern (2000:8) notes that the main purpose of CALL programs was “to provide immediate positive or negative feedback to learners on the formal accuracy of their responses”.

CALL practitioners developed their first profound project at the University of Illinois which was called as PLATO (Programmed Logic for Automatic Teaching Operations). This project provided language courses which were based on a scheme programmed before entailing students to do language practices based on the Grammar Translation Method (Hubbard, 2009; Guo, 2010). However, these CALL programs were far from engaging

both students and teachers in learning and teaching since they adopted the same patterns for teaching different language topics. Besides, their feedback was very limited as they did not provide detailed information for students to correct their mistakes (Zhao, 2006).

Losing its popularity during 1980s, Behaviorist Approach to language teaching has been replaced by Cognitive Approach which was also adopted by CALL practitioners (Gündüz, 2005). Criticizing the Behaviorist theory of B.F.Skinner, Chomsky asserted that language learning process is much more than a simple stimulus-response interaction. Rather, it is a quite complicated process including innate cognitive processes (Chomsky, 1957; 1959; 1965 cited in Warschauer &Kern, 2000). In Cognitive Approach, students are actively involved in the process to generate their language system through incorporating their innate cognitive knowledge with authentic language (Zhao, 2006).

Based on these principles, Cognitive CALL (Communicative CALL) programs focused on the learner giving the control of learning process from computers to learners, and adopted Communicative Language Teaching. Namely, computers were considered as tools utilized by learners when they needed for the purpose of maintaining language learning (Warschauer &Kern, 2000; Gündüz, 2005), and they were also used to "develop learners mental model through the use of target language through exercises that guide meaningful peer interactions and promote fluency" (Gruba, 2004:628-9 cited in Evans, 2009). Although Cognitive CALL programs were superior to Structural programs since they allowed students to complete learning activities involving problem-solving, hypothesis-testing processes, and to improve their knowledge building on their previous ones in simulated environments (Papert, 1980 cited in Chiu, 2008), there were still concerns about effectiveness of CALL applications since it was concluded that the computer "was making a greater contribution to marginal rather than to central elements" of the language learning process (Kenning &Kenning, 1990:90 cited in Warschauer &Kern, 2000).

Socio-cognitive Approaches to CALL (Integrative CALL) which refer to "making full use of networked computers as a means to engage learners in meaningful, large-scale collaborative activities" (Gruba, 2004:629 cited in Evans, 2009) began to appear in the relevant field in the early 1990s as a result of the common belief adopted by researchers that there was need for a more learner-centered approach to language learning in which learners were given more control over their learning (Garrett, 1991 cited in Blake, 2011).

Furthermore, it was asserted that learning a language was a kind of socialization process in which learners were required to interact with their peers, instructors, and the speakers of the target language (Cameron, 1999 cited in Zhao, 2006). Along with theoretical improvements which ascribed greater value to meaningful interaction in real contexts, technological improvements in computer networking gave rise to interactive meaningful communication among people from all over the world through the medium of computers. What two major facilities that computer networking brought to language classes were those globally linked hypertext (the World Wide Web) and CMC (Computer Mediated Comunication)(Warschauer &Kern, 2000). Through using the World Wide Web "students can search through millions of files around the world within minutes to locate and access authentic materials (eg. Newspaper and magazine articles, radio broadcasts, short videos, movie reviews, book excerpts) that correspond to their own personal interests" (Warschauer &Kern, 2000:12). CMC tools including both synchronous (instant messenger programs, skype etc.) and asynchronous (e-mails, forums, blogs, wikis) ones have been a part of CALL programs which adopted Socio-cognitive perspective providing opportunities for students to use the target language in authentic social contexts (Gündüz, 2005; Blake, 2011).

2.7.1.2. Benefits of Integrating Computer Technologies into Language Classes

Computer technology has proved to contribute to the language learning in many aspects, and according to Lee (2000) there are many reasons for integrating computer technology into language classes including the following ones:

- facilitating interaction with both discourse and target community,
- enriching the learning context with authentic materials,
- promoting individualized learning through enabling students to study at their own pace,
- engaging students in the learning process providing opportunities with a great variety of language tasks, activities,
- promoting global understanding.

Computer Assisted Language Learning programs can provide a wide range of opportunities for interaction through *CMC tools.* Called as 'Netspeak' by Crystal (2001 cited in Fitzpatrick, 2004), CMC is accepted as the fourth type of language (computer-mediated language) added to the other types: spoken language, written language, and sign language. CMC tools including both synchronous (instant messenger programs, skype)

and asynchronous (e-mails, forums, blogs, wikis) ones led to an increase in the usage of social network services such as Facebook, MySpace, LınkedIn which are commonly used by people nowadays as a result of social network improvement by means of computers (Blake, 2011). According to Sayers (1993) CMC tools stimulate learners from different classes to use the language in its real context dealing with authentic knowledge through exchanging their ideas, language abilities, and cultural properties by means of joint programs including cultural exchanges. Similarly, Smith (2009 cited in Blake, 2011:25) asserts that "with respect to L2 instruction, CMC allows instructors and learners to engage in meaningful negotiations with all of the positive benefits associated with scaffolding that have been reported in the literature for face-to-face exchanges". Language tasks assigned to learners which require working in groups or at least in pairs via CMC chat encourage learners to ask for help from one another to accomplish their common goal on the given task (Blake, 2011). Besides facilities such as exchanging and sharing messages on discussion boards, joining groups which are accessible 24/7, students can do on-line exercises which provide automatic feedback (Lee, 2000). There have been more sophisticated alternative programs to the ones mentioned above for interaction. Programs like Second Life which stimulate communication in virtual environments with a given context have become popular among learners in recent years. In this kind of programs participants are represented by avatars that they choose, and can communicate synchronously (Hubbard, 2009).

As mentioned above one of the epochal inventions which was introduced to the relevant field was globally linked hypertext. Being one of the well-known implications which represent hypertext, the World Wide Web provides access to a vast amount of materials which may lead to authentic learning with one click at a lower cost (Warschauer &Kern, 2000; Lee, 2000). These materials include multimedia-texts, videos, magazines, images, sounds, and animations etc (Meskill, 2002). Hubdard (2009) highlights that technology–based instructional materials help learners gain valuable experiences in terms of using language in its real context which improves social interaction between learners and native speakers. Furthermore, variety of the materials presented by computer technology makes learning environment more enjoyable and interactive which lead to increased engagement and motivation. Fitzpatrick (2004:6) summarizes significance of web-based materials along with the World Wide Web best with the following words:

> "they expand the classroom context and provide access to current, up-to-date materials

> from the country or countries of the target language, offering learners and teachers a plethora of materials in different modes, bringing the foreign culture and language to life and making it more tangible".

One of the main advantages of CALL programs is providing "immediate and personalized feedback" (Hoven, 1999:88). Immediate feedback is precious for learning process since it is highly proven that receiving immediate feedback enhances learning (Norbrook &Scott, 2003). Furthermore, ensuring that students are given personalized feedback is necessary because learners do not progress at the same pace, the amount and type of feedback required for learning changes depending on the learner (Egbert &Yang, 2004). There are several types of feedback that CALL programs provide through using sounds, movements, texts, visuals etc. It is possible to monitor and keep record of learners' behaviours and progress via these CALL programs. Furthermore, they can make comparison between the learner and his/her purposes or among learners (Reinders &Darasawang, 2012). Also, CALL programs including CMC tools may function as tools both for giving and receiving feedback. For instance, in writing courses, students may send their essays to their peers or teachers so that they can get feedback about their essays (Dudeney &Hockly, 2007). Enabling interaction with their peers and instructors not only in classroom but also outside of classroom, these tools help learners get 'psychological boost' since they can receive feedback on their performances whenever they want (Louis, 2006).

CALL has contributed much to the concepts of individualized learning and autonomous learning which interact and influence each other. For individualized learning, CALL programs provide stress-free learning environments where learners do not depend on their peers to proceed, and they study independently. Besides, they can eliminate their concerns about being humiliated by the others since learners do not see each other's progress while dealing with their own learning in their own computers.

Briefly defined as "ability to take charge of one's own learning" (Holec, 1981:3), the concept of autonomous learning owes much to CALL since integrating computer technologies to language learning classes prioritized students' actions over teacher's instruction giving more responsibilities to students (Godwin-Jones, 2011). According to Warschauer &Schetzer &Meloni (2000:86 cited in Hubbard, 2003) "autonomous learning is one of the five main learning goals that should be connected with use of the Internet". With the advent of computer technology, self-access learning has gained ground in language education which has led to foundation of SALCs (Self-access learning center)

which supply materials, both traditional and technological, for self-learning all over the world (Joshi, 2011). According to Lai &Gu (2011), technology based materials give learners the opportunity to study and practice the target language on their own outside of the classroom, which fosters learner autonomy besides increasing the amount of the exposure to the target language.

The flexible nature of technology-based learning, and the variety of the materials provided by computer technology, require learners to make choices regarding which learning strategies they are going to use, how they are going to assess their progress, which materials or programs they are going to use, what kind of route they are going to follow relying on their needs, interests, competence levels etc. Through making choices learners take responsibility for their own learning which facilities autonomous learning (Louis, 2006; Changyu, 2011). To exemplify the facilities that technology provide for learner autonomy, E-mail tandem learning, a CMC tool, is a good one since it is used between learners from different countries who want to learn each other's native language. To gain competence in the target language both side has responsibilities to each other as they have a common goal: to learn a language. Thus, they are in the position of controlling their own learning (Schwienhorst, 1997 cited in Chiu, 2008). To become autonomous learners, students need to develop awareness towards their learning process along with their learning styles, strengths and weaknesses. Gaining such awareness depends on students' interest and motivation level which can be improved by different topics and materials accessible via the Internet (Louis, 2006).

It is widely accepted that CALL applications have opened new paths to teaching language skills and areas integratively through enriching the learning environments with a vast amount of facilities. As Fitzpatrick (2004:23) states that "classes are likely to become much more learner-centred, with learners' time and effort devoted to authentic reading, writing and speaking tasks related to authentic communication with (native speaker) partners".

To start with listening, it has been considered as the most basic skill since it comes before other skills in natural order of language acquisition (Mitchell, 2009). Sound facilities added to computers at the beginning of the 1980s "brought listening away from the linear tape and allowed the blending of onscreen graphics and text, leading to multimedia environments" (Hubbard, 2009:6). According to Carla (2000 cited in Zhao, 2006) students are supposed to complete two types of listening tasks in CALL context:

self-access practice and listening to a lecture. In self-access practice students are free to choose practice time and place, and the topic that they are going to listen. After listening part, students are required to complete an exercise and given immediate feedback by the computer. In lecture listening, on the other hand, students listen to a relatively long text which was determined by the teacher, and it is followed by a discussion session along with or without completing a task which requires cooperation. To improve their listening skills, students may benefit from numerous listening texts along with sound files which are easy to access and authentic such as news, documents, any kind of speech programmes via the Internet. Computer technology facilitates integration of skills in language classes through learning tasks which requires students to practice more than one skill (Mitcell, 2009).

As for speaking, there is a consensus among scholars that the primary way of improving speaking is to practice it in contexts similar to the real-life context along with socio pragmatic components (Zhao, 2006). Speaking training has undergone profound changes along with the developments in CALL. Computer technology contributed to both pronunciation and speaking skills (Zhao, 2006). The emergence of CMC tools has brought the real context in which the target language is used to the language classes. Researches on the effectiveness of both synchronous and asynchronous interaction tools on speaking skills revealed that these tools facilitated meaningful communication among students. Compared to face-to-face interactions, the effectiveness of CMC tools regarding negotiating meaning was found to be quite satisfactory (Blake, 2000; Smith, 2003; Sotillo, 2000; Yanguas, 2010). Also, CALL applications such as ASR (automatic speech recognition), Electronic Visual Displays, digital recorders, and online dictionaries help learners improve their pronunciation (Hubbard, 2009; Zhao, 2006).

The concept and scope of literacy both in general and in the relevant field have been enhanced through emerging technologies as Fitzpatrick (2004:30) claims:

> "reading and writing in light of cultures and technologies transcend merely encoding and decoding of text. It also involves the ability to be prepared for the non-standardized, the uncommon and the unexpected, all parts of an epistemological shift that targets pluralism and change instead of a fixed and stable subject matter".

With the integration of multimedia and hypertext links, traditional, paper based reading has been widely replaced by digital reading (Hubbard, 2009). The Internet provides authentic reading materials in electronic format such as blogs, magazines, newspapers, e-books and Wikipedia for students. Along with these materials, there are also

free Internet software programs which help learners to find and learn meaning of unknown words such as WordChamp and UltraLingua while reading. Besides, multimedia components such as photographs, glossary, video, graphics, and sound accompanying reading texts help learners to comprehend the reading text better (Blake, 2011).

Lastly, it is approved that CALL has positive effects on promoting students' writing skill which is considered as the most challenging one among the four main skills. Through CALL programs such as web-pages produced by learners, blogs, and wikis, students can publish their writing, which constitute an integral part of authentic writing since it is approved that authentic writing needs to be read by the others (Hubbard, 2009). These programs in addition to asynchronized communication tools provide opportunities for learners to 'sharpen their language' through getting feedback and recognizing, keeping, and reutilizing expressions used by the others, which improve authentic language use (Fitzpatrick, 2004). There are also programs which are designed for merely feedback. They include automated writing evaluation programs consisting of essay scoring software accompanied by devices such as spell checkers, grammar checkers, model essays, graphic organizers, word banks etc., which help learners gain accuracy in the target language (Warschauer, 2010; Hubbard, 2009).

2.7.2. Mobile Assisted Language Learning (MALL)

Mobile learning, a contemporary trend, has gained ground in the educational field along with the widespread use of multi-function mobile devices among the young generation (Kukulska-Hulme *et al.,* 2005). While some researchers considered it as one step ahead of e-learning, some others regarded it as a component of e-learning (Mostakhdemin-Hosseini &Tuimala, 2005; Georgiev, *et al.,* 2004 cited in Laouris &Eteokleous, 2005). However, it is acknowledged that m-learning has recently been replacing e-learning (Laouris &Eteokleous, 2005; Georgiev &Georgieva &Smrikarov, 2004; Sharma &Kitchens, 2004). This replacement has led to replacement in terms used in educational field (see Table 1). Although there is no consensus on what m-learning exactly stands for since it is changing consistently (Kukulska-Hulme, 2009), several definitions still will be given to have a better understanding of the upcoming concept: Mobile Language Learning. According to Traxlor (2005 cited in Fazeena *et al.,* 2012:1) Mobile Learning is "any educational provision where the sole or dominant technologies are

handled or palmtop devices". In the present study, mobile devices refer to any kind of mobile phones that students own and use for learning English.

Table 1. Terminology comparisons between e-learning and m-learning (taken from Laouris &Eteokleous, 2005).

e-learning	m-learning
Computer	Mobile
Bandwidth	GPRS, G3, Bluetooth
Multimedia	Objects
Interactive	Spontaneous
Hyperlinked	Connected
Collaborative	Networked
Media-rich	Lightweight
Distance Learning	Situated Learning
More formal	Informal
Simulated situation	Realistic situation
Hyperlearning	Constructivism, situationism, collaborative

Polsani (2003 cited in Laouris &Eteokleous, 2005:2) defines m-learning as "a form of education whose site of production, circulation, and consumption is the network" while Sharples *et al*. (2007:225 cited in Viberg &Grönlund, 2012) provides a more specific definition giving emphasis to learning context since he claims that it is a "process of coming to know through conversations across multiple contexts among people and personal interactive technologies". Lastly, Quinn (2000 cited in Ally, 2004:5) proposed a broader definition as he claimed that "mobile learning is the intersection of mobile computing and E-learning: accessible resources wherever you are, strong search capabilities, rich interaction, powerful support for effective learning, and performance-based assessment." Mobile devices which support m-learning refer to any kind of devices which are handheld such as 'cell phones, personal digital assistants (PDAs), smartphones, pads, pods' etc. Although laptops are also portable, they are not accepted as mobile devices in m-learning context (Viberg &Grönlünd, 2012). On the other hand some authors like Traxlor (2005 cited in Fazeena *et al*., 2012) considers laptop PCs besides tablet PCs as mobile devices in the relevant context. In language learning context, according to Zhao (2005:447 cited in Chinnery, 2006) "technologies that hold the capacity for language learning include PDAs, multimedia cellular phones, MP3 players, DVD players, and digital dictionaries".

The growing tendency among language learners for using mobile devices indicates that there has been a shift from CALL (Computer assisted language learning) to MALL (Mobile assisted language learning) in recent years (Watson-Todd, 2007 cited in Jarvis, 2012). Being a quite new study field, MALL has been developing gradually so still there are issues need to be clarified such as what exactly MALL refers to, how it contributes to language acquisition etc. Yet, there are evidences that MALL enhances language learning in several ways (Viberg &Grönlünd, 2012). Miangah &Nezarat (2012:313) claims that Mobile assisted language learning refers to "the use of mobile technology in language learning". According to several researchers (Chang &Hsu, 2011; Sandberg *et al.*, 2011 cited in Viberg &Grönlünd, 2012) MALL constitutes a subset of CALL. However, students have more freedom and control over their learning in mobile assisted language learning thanks to the personal mobile devices which increase quality of interaction and access to different learning contexts (Kukulska-Hulme &Shield, 2008 cited in Kukulska-Hulme, 2009). Moreover, similar to CALL, mobile assisted language learning "might also be face-to-face, distance, or online; further, they may be self-paced or calendar-based" (Chinnery, 2006:9). In this study, MALL refers to using any kind of mobile phones both with and without Internet connection in language learning process.

Mobile assisted language learning is quite a new research field since only invention of mobile devices which students utilize for learning English dates back to the 1970s. Since then, most of the studies have dealt with integrating mobile devices into language learning process through developing a learning content for mobile devices. However, these studies were not enough to answer the question of how these devices can be used to improve language skills (Miangah &Nezarat, 2012; Zhang, 2011).

2.7.2.1. Benefits of Integrating Mobile Devices into Language Learning Process

According to Kukulska-Hulme (2009) technological facilities play an important role in determining learner preferences for studying a subject. Furthermore, he claims that owning a mobile device can lead to better results than just borrowing it for a limited time in terms of learner success, and having more than one device help learners to eliminate troubles resulting from the device itself such as having poor battery life. Mobile media devices which have contributed to educational field through bringing m-learning have been changing consistently with new qualities added to them (Squire &Dikkers, 2012).

According to Klopfer *et al.* (2002 cited in Klopfer &Squire, 2008:3-4) handheld devices have the coming features which enhance learning:

-*portability*- can take the computer to different sites and move around within a location

-*social interactivity*-can exchange data and collaborate with other people face to face

-*context sensitivity* –can gather data unique to the current location, environment, and time, including both real and simulated data

-*connectivity*-can connect handhelds to data collection devices, other handhelds, and to a common network that creates a true shared environment

-*individuality*-can provide unique scaffolding that is customized to the individual's path of investigation.

These features have stimulated scholars to look for ways of exploiting these devices to facilitate language learning (Huang *et al.*, 2012 cited in Viberg &Grönlund, 2012). Although these technologies did not essentially aim to teach language since they were originally designed for different purposes such as communicating, playing game, listening or watching news, films, music etc., they were used and are currently being used to maintain language learning both in direct and indirect ways (Godwin-Jones, 2005). Using mobile devices in learning process proved that these devices, "with appropriate software, can be highly effective in supporting small group collaborative learning, improving on what was impossible to achieve without these tools" (Zurita &Nussbaum, 2004; Valdivia &Nussbaum, 2007 cited in Kukulska-Hulme, 2009:160). Besides, these tools promoted informal learning beyond the classroom through providing unlimited access regarding time and place to social networking sites, and a wide range of experiences that engage students in learning (Squire &Dikkers, 2012). Simply put, mobile technologies play an important role in promoting contextual lifelong learning (Sharples &Corlett &Westmancott, 2002). Mobile devices including mobile phones have much in common with computers in terms of facilities they provide to enhance learning as long as they have the Internet connection. However, it is cheaper to access the Internet through mobile phones, and more practical thanks to the easy portability of mobile phones (Miangah &Nezarat, 2012).

Mobile phones are one of the most frequently used mobile devices among the students to learn the target language. Nyiri (2002, 2005 cited in Laouris &Eteokleous, 2005:3) claims that the mobile phone has become the integral part of our lives since we can do every day things such as shopping, banking, paying bills etc. easily via mobile phones. Besides, it is the most popular tool used to maintain communication among people,

organizations, and endless objects. In addition to being used in daily life, mobile phones have become a learning tool in the relevant field thanks to the increasing facilities added to them. Current mobile phones are characterized by the features such as Internet access, voice- messaging, SMS text-messaging, cameras, video-recording etc. These attributes help learners practice the target language in authentic contexts, and work collaboratively on a given task through facilitating intimate interaction and information exchange among students (Chinnery, 2006; Miangah &Nezarat, 2012). Moreover, smartphones which possess most properties of the latest mobile technology have great potential to enhance language learning. In fact, some of the cutting-edge smartphones have more functions than laptops (Godwin-Jones, 2011). In addition to the features mentioned above, they include "contact management, scheduling software, and the ability to read files in a variety of formats including Macromedia Flash and Microsoft Office applications, and the key feature of smartphones is that one can install additional applications to the device" (Wagner, 2005:47). There are a very wide range of applications some of which are free including a large number of topics. These applications increased functionality of mobile devices including smartphones, tablets, and laptops. Flashcard programs, dual language dictionaries, phrase books some of which are enriched with audio and video facilities are among these applications. Applications used for language learning generally require Internet connection. Several projects using such applications have functions such as helping learners to conduct discussions on a given task or homework through social networking sites, and practice the language in authentic context providing suitable vocabulary and language use depending on the immediate place where the learner is (Godwin-Jones, 2011).

Mobile phone, as a learning tool, helps learners to study on their own pace according to their preferences in terms of time, place, content etc. (Miangah &Nezarat, 2012). Contemporary mobile language learning programs (e.g.the BBC World Service's Learning English section) introduced to the field deliver lessons regularly which are accessible regardless of time and place providing translation and more context-based applications for better understanding when necessary. These features potentially create a learning environment where learning becomes more interesting and engaging for students (Godwin-Jones, 2005; Kukulska-Hulme, 2005; Andrews, 2003, Norbrook &Scott, 2003, McNicol, 2004 cited in Chinnery, 2006).

Tablet PC is another mobile technology which enriches learning experiences. According to Corlett &Sharples, 2004:60) students use tablet PCs in the learning process for the following reasons:

-to email,

-to create documents, browse, and listen to songs,

-to read, take notes,

-to watch videos,

-to programme,

-to send and receive online text messages,

-to annotate presentations,

-to keep a record of work, and manage time.

It is confirmed that language learning and use are highly enhanced with audio support. E-books which students can read through their tablets help to improve comprehension and other skills since they are accompanied by audiovisual facilities. Above all, as in smartphones, students can benefit from featured applications designed for tablets but with one difference: being exposed to a larger screen (Godwin-Jones, 2011).

Standing for Personal Digital Assistants, *PDAs* are also m-learning devices used by students. It is a broader term covering Palm and Pocket PC devices. As in other mobile devices such as smartphones and tablets, PDAs can be used by students to benefit from the following applications; email, instant messaging, RSS feeds, discussion boards and blogs (Cochrane, 2005). In the relevant field, PDAs have been popular with translation programs which give word stems and word meanings in context (Chinnery, 2006). Besides, *MP3 players*, followed by MP4, MP5 and so on, have been popular among students particularly because they are cheaper compared to other mobile devices mentioned above. Wagner (2005:47) describes MP3 as "an audio compression format capable of a great reduction in the amount of data required to reproduce audio while sounding like a faithful reproduction of the original uncompressed audio to most listeners". While learners used to exploit their teacher's sources such as CD collections to listen foreign music in the past, nowadays, they have many opportunities to follow and listen foreign singers through current technological means including MTV international, net radios, audioscrobbler etc. Thanks to data container ID3v2 accompanied by a sophisticated application OCR-capable translation, students can easily add song lyrics to their MP3 files and listen to foreign songs while viewing their lyrics at the same time (Purushotma, 2005).

Mobile devices may also facilitate Communicative Language Teaching Method in the following ways:

-*as a data collective tool:* student conversations and dialogues in the target language can be kept in such kind of devices to reflect on the process, to share, and to prepare content for next courses.

-*as a communication tool*: technologies such as mobile phones, sms messaging, instant messaging enable learners to connect with their peers, teachers, and native speakers.

-*as a language assistant:* these devices help learners in their interaction with native speakers in an authentic context through offering guidance.

-*as a productive tool:* mobile devices support learners in that they encourage learner production such as writing a reflection, a report, an essay etc., preparing presentations with images, and making animations etc. (Kukulska-Hulme, 2005, Petersen &Divitini, 2005, Cavus &İbrahim, 2009, Kiernan &Aizawa 2004, Kong, 2009, Ogata &Yano, 2004, Markiewicz, 2006, Joseph *et al*. 2005, Chen *et al*. 2009 cited in Wong &Looi, 2010). Lastly, mobile devices help learners become autonomous since they do not have to strictly follow the instructor during the whole process. There are many other ways to reach and use knowledge thanks to these devices, and making choices among these alternatives foster learner autonomy (Thomas, 2005).

2.8. Challenges of Using Technology (Computer Technology and Mobile Technology) in Language Learning Process

As mentioned above, the present era has witnessed profound changes leading to favourable outcomes in foreign language education thanks to the emerging technologies. However, both computer technology and mobile technology have challenged instructors and learners in several ways.

Kenning &Kenning (1983) emphasize that computer is just a tool which support learning on condition that it is used appropriately. However, it cannot substitute teachers rather; it functions as a consolidator in the learning process. Furthermore, many computer programs designed for language education are not based on any SLA theories. According to Oxford (1995 cited in Chapelle, 1997) only a small number of ICALL (Intelligent Computer Assisted Language Learning) tasks have adopted principles regarding language learning process. This is partly because of the fact that designers of such programs

generally consist of computational linguists which means NLP is prioritized over learner psychology (Holland, Kaplan, & Sams, 1995 cited in Chapelle, 1997). Another challenge of working with computer technology is that both instructors and learners may feel stressed since they have to deal with the novelty that technology brings into the traditional classroom. The situation is a bit more dramatic for teachers since many of them lack technological knowledge, and may not be competent enough to find out and solve technical problems which may arise during the course (Hamilton, 2009).

There are several concerns raised by researches with respect to integrating mobile technology into language learning process. One of the issues posed by them is about balancing learner control. Too much freedom maintained by mobile devices ranging from deciding on the content to determining their own learning goals may lead to following outcomes:

-learners may become exhausted since they have a wide range of responsibilities for their learning,

-learners may get lost among a vast amount of data if they are not provided with proper guidance,

-they may easily give up and become disappointed (Dubs, 2005 cited in Frohberg *et al*., 2009).

Another issue regarding particularly mobile phones is that most of them are not suitable for performing learning tasks or activities since their main function is maintaining communication, not education. Therefore, students have to deal with problems caused by hardware including small screen, troublesome keyboard, restricted place for messaging etc. Besides, since many applications and activities require Internet access, learners need a stronger and permanent Internet connection that they can access. However, this kind of connection may not be available whenever and wherever necessary, and is not affordable by all students. Although mobile phones whose functions are increased to handle different tasks including learning area are existing, they are too expensive to buy for many students (Viberg &Grönlund, 2012; Chinnery, 2006; Kukulska-Hulme, 2005).

Mobile phone expenses are another issue which challenges learners as Internet access through mobile phones becomes expensive when used for a longer time. In a study conducted by Dias (2002a, 2002b cited in Nah *et al*., 2008), it was found that students tended to use PCs more often than mobile phones to connect to the Internet and send message to the bulletin board designed by the researcher since typing on mobile phones

was slow because of alphanumeric keyboard which meant loss of more time and money. In addition to the Internet cost, most of the applications which students can download to their mobile devices including their smartphones, tablets are not free.

2.9. Previous Studies on CALL

A good number of studies have been conducted in the relevant field with the growing interest in technology integrated approach to language education. While some of these studies focused on psychological aspect of using computers and the Internet technology such as attitude towards using technology in classroom or beyond the classroom, and the relationship between technology integration and some other factors which play important role in language learning such as motivation, autonomy, self-esteem etc., some others which were mostly experimental explored whether integrating a particular kind of technology helps to improve language skills or a particular language skill such as reading, writing etc. The third group of studies mentioned in this paper investigates effects of using emerging technologies on improving language areas: pronunciation, grammar and vocabulary.

To start with the first group of studies, they often investigated students' attitudes or motivations towards using computers or the Internet for improving a skill or language area or language learning in general. Most of these attitude studies (Mahfouz &Ihmedieh, 2009; Akbulut, 2008; Bulut &Abuseileek, 2007; Durndell &Haag, 2002; Holmes, 1998) yielded positive results favouring technology enhanced language learning, and maintaining that it contributes to building self-confidence, motivation, (Egbert, 2003; Stepp-Greany, 2002; Osuna &Meskill, 1998) and autonomy (Hafner &Miller, 2011; Lee, 2011; Toyoda, 2001; Lam, 2000) while some others claimed that it still falls behind traditional classroom learning (Okan &Torun, 2007; Ayres, 2002) . To exemplify, Akbulut (2008) conducted a study which aims at finding students attitudes towards utilizing computers and the Internet technology to write and communicate in the target language. Through administering a questionnaire to undergraduate students, he found that learners in general agreed that computer use was necessary to promote in their job. Besides, total mean scores revealed that they were in favour of benefiting from both computers and the Internet technology while writing and getting contact with their peers and the other people including native speakers. Bulut &Abuseileek (2007) carried out a similar study through surveying undergraduate students on possible effects of using computer technology along with the

Internet technology on improving language skills after they were exposed to technology (computer and the Internet) integrated language courses regarding the four basic skills: listening, speaking, reading, and writing in e-learning laboratories for more than four months. Results indicated that students were in favour of using computers connected to the Internet to improve their language skills, especially to improve listening and writing through audio-visual materials and e-mail writing with immediate feedback for both content and form, respectively.

In another study conducted by Osuna &Meskill (1998) students were supposed to complete a number of tasks including organizing a journey to a touristic place, making a photo album to introduce a country, and preparing a leaflet which provides information about recreation places in a touristic place. The study revealed that students actively got involved in the learning process through completing tasks via authentic web-based materials which increased learner motivation. Exploring student perceptions on using technology to conduct learning activities, Stepp-Greany (2002) also indicated that students favoured technology use in language learning process and found it more enjoyable and engaging.

Lee (2011) investigated the role of CALL in promoting learner autonomy. The participants included 16 undergraduate students who were required to join in blogging to complete home works, tasks given by the instructor, and to reflect on their works. Students' reflections suggested that using blogs during the learning process facilitated autonomous learning. Another study was carried out by Toyoda (2001) at the University of Melbourne where students attended to PrOCALL (Project-Oriented Computer Assisted Language Learning) project for approximately six months. As a result of interviewing with 55 students, he found that technology integrated language learning environment helps learner autonomy to improve.

Studies dealing with effects of CALL on improving language skills generally focused on integrating a particular software, an application or web-based materials to foreign language classes (Meihami *et al.,* 2013; Phuong, 2013; Chen &Zhang, 2011; Sun, 2010; Winke *et al*., 2010; Lin &Chiu; 2009; Bhatti, 2013; Chen *et al.,* 2013; Meihami &Varmaghani, 2013; Alshumaimeri &Alsmari, 2012; Yang, 2011; Lee, 2010; Constantinescu, 2007; Cooke-Plagwitz, 2008; Peterson, 2005; Warschauer, 1995; Fellner &Apple, 2006; Greenfield, 2003; Lam, 2000). To illustrate, some of these studies will be mentioned briefly. Meihami *et al.,* (2013) conducted a study with the purpose of exploring

whether CALL materials help learners to promote their listening skills. The participants consisted of Iranian EFL students which were separated into two groups. While the first group took their listening courses in traditional ways, the other group used a software program called *Four Corners* during their listening courses which lasted over eight sessions. After applying pre-tests and post-tests to both groups, the researchers concluded that students who exploited CALL materials made more progress in listening compared to the other students who did not. Phuong (2013) carried out an extensive study which investigated effects of web-based materials on listening skills in terms of both teaching and learning. After being exposed to a training process related with using digital technologies in teaching listening skills, teachers agreed to use web-based materials in their listening courses. Moreover, listening skills of students who took listening courses through utilizing such materials improved quite a lot. In another study (Winke *et al.*, 2010), the potential of captioning videos to improve listening comprehension was explored. The results showed that students who watched captioned videos did better than the others watching non-captioned videos in vocabulary tests. Besides, captioned videos helped students to focus on the activity, and examine the expressions, sentences, phrases in terms of both form and meaning, and finally led to better listening comprehension.

Studies focused on improving speaking skills often dealt with integrating virtual worlds or CMC tools into foreign language classes. However, only a limited number of these studies were experimental. Peterson (2005) attempted to identify whether using an online virtual world (Active Worlds) leads to better learning outcomes in foreign language education. After data analysis process, they concluded that Active Worlds provided opportunities for students to practice the target language in authentic contexts through using communication strategies such as abbreviation, adressivity, clarification requests etc. Yang's (2011) study aimed at investigating effectiveness of using both synchronous and asynchronous communication tools in a drama based foreign language course in which learners discussed and wrote about particular situations through being scaffolded by their instructors. The study revealed that using CMC tools through which students both spoke and wrote helped students to easily get involved in the process both emotionally and cognitively. Moreover, it was revealed that there was significant improvement in students' speaking and writing skills at the end of the course. Another study conducted by Warschauer (1995) compared learner conversations which were conducted in person and conducted in online environment using an instant messaging program. The results showed

that more students took part in the online conversation compared to the traditional classroom discussion in which only a few students controlled the flow of conversation. Another superiority of online discussion was that the language used by the students in online conversation was more formal and complex.

Several researches in the relevant field dealt with the potential of computers and the Internet technology to improve reading skills in the target language. Bhatti (2013) carried out an experimental study to see whether using CALL materials in reading courses make any difference in students' performances. While the control group took reading courses in traditional ways, the intervention group was taught through using elaborate PowerPoint presentations with sounds, images, graphs, and animations. Comparing pre-test-post-test-results, it was found that reading skills of students who benefited from CALL materials improved significantly compared to the other group. Such materials also proved that they helped students build self-confidence, and increased their motivation. Another study (Alshumaimeri &Almasri, 2012) examined whether the use of WebQuest in reading courses leads to better learning outcomes. It was found that the experimental group taking reading courses through using webquest surpassed the control group who did not benefit from webquest in reading comprehension performance.

Writing which is considered as the most challenging one among the language skills has also been studied in the CALL field. For instance, Lee (2010) investigated the use of blogging in foreign language classes for reflective writing and interaction. After a training process on using a weblog, learners were required to create and use their blogs to reflect on the tasks that they completed and they were given feedback on their writing in terms of both content and form throughout a semester. Through surveying and interviewing, it was found that using blog promoted writing fluency and accuracy. In addition, students favoured blogging since they enjoyed, and felt more relaxed while writing blog entries. Another study (Sun, 2010) attempted to find out the effectiveness of blogging in promoting extensive writing. The researcher compared each student's first and last three blog entries in terms of grammar usage, vocabulary selection, fluency, punctuation, spelling, and organization. Based on the data obtained through comparing blog entries, interviewing, and surveying students, it was found that blogging has enhanced students' writing skills particularly in organization, punctuation, and spelling. Moreover, students reported that they used their blogs mostly for revising and reviewing. Above all, blogs engaged students in writing tasks since they enabled students to use the language in meaningful contexts,

and fostered learner autonomy since students had the responsibility for checking both their writings and the others' writings. Differently, Lam (2000) conducted a case study focusing on an immigrant student's progress in English through using the Internet for chatting, e-mailing, and searching via the WWW. He found that the online environments facilitated target language use for meaningful and purposeful communication, and thus helped the student gain flexibility in both writing and speaking in English.

The last group of studies to be mentioned in this paper dealt with the potential of CALL to promote grammar, vocabulary, and pronunciation knowledge which are actually and especially taught along with the skills in CALL (Mehrgan, 2012; Naba'h *et al*., 2009; Lord, 2008; Kim, 2006; Yip &Kwan, 2006; Seferoğlu, 2005; Shaalan, 2005; Levis &Pickering, 2004; Tozcu &Coady, 2004; Neri *et al.*, 2002; Koren, 1999; Svenconis &Kerst, 1994). To exemplify, Mehrgran's study (2012) proved that students who took grammar courses through using a computer based software demonstrated a higher performance in the post-test compared to the others who took the grammar course without any technological support. Another study carried out by Naba'h *et al.* (2009) indicated that working with computers facilitated individualized learning since students practiced grammar points on their own.

Yip &Kwan (2006) explored whether online games can help students to learn new vocabulary. While control group learnt the new words through activities in teacher-led courses, participants in the experimental group benefited from two websites to search for the topics and the related vocabulary, and they practiced the words through playing games on the mentioned websites. The results suggested that vocabulary games enabled learners to acquire and memorize the words given for quite a long time. In Koren's (1999) study, students took vocabulary courses via a hypertext program which provided context for the vocabulary to be learnt. Students found the program quite interesting and enjoyable and did better in inferential vocabulary learning. However, the program did not contribute to incidental vocabulary learning. As for pronunciation, Seferoğlu (2005) conducted a study which aimed at finding out the possible effects of using an accent reduction software to improve students' pronunciation. Comparing intervention and control group, she found that students who used the software program in multimedia language laboratory exhibited better performance in the pronunciation post-test compared to the others who took traditional instruction since they got individualized and immediate feedback on their performances during the three week instruction period. Another study (Lord, 2008)

investigated effectiveness of podcasting on learner pronunciation. Through uploading recordings which include their speeches and giving feedback to the each other's recordings, students practiced pronunciation. It was revealed that podcasts enhanced pronunciation.

2.10. Previous Studies on MALL

Although there is a growing trend in using mobile devices for learning English among students, studies in the relevant field are quite limited. While some of the existing studies dealt with effects of a particular software or application on learning language skills or areas which actually constitute a part of CALL studies, some of them explored usage of mobile devices in foreign language teaching and learning to clarify in what way they contribute to the learning process including psychological factors. Since mobile devices refer to mobile phones in the present study, only researches on benefits and drawbacks of using mobile phones in language learning will be mentioned (Squire &Dikkens, 2012; Wong &Looi, 2010; Çavuş &İbrahim, 2009; Lu, 2008; Nah *et al*., 2008; Saran *et al.*, 2008; Todd &Tepsuriwong, 2008; Stockwell, 2007; Thornton &Houser, 2005; Fallahkhair *et al*., 2004; Kiernan &Aizawa, 2004). Wong &Looi (2010) conducted a case study in which they explored the role of smartphones in enhancing vocabulary learning. Participants which were primary school students were required to take photos around the school to describe the idioms that they learnt, and move them to their wikis to share and discuss about these photos and the sentences they made using the idioms with their peers. Although the study proved that students worked collaboratively in and outside of the classroom through revising and commenting on each other's sentences and photos, it was revealed that they considered smartphones as tools for fun, and could not use efficiently enough because of the technical problems while sharing photos and sentences on the web.

Nah *et al.* (2008) carried out a study on mobile phone use in language learning. In their study, students used a WAP site in which they conducted listening activities (pre-during-post), and answered questions about the listening part and discussed about their answers, and sent them to their teachers via mobile phones. Data analysis results demonstrated that using mobile phones for the activities mentioned above fostered collaboration and interaction among the students since they could get into touch easily with each other thanks to their mobile phones. Also, it was found that such learning enabled learners to study individually controlling their learning process, and in a stress free

environment. Lastly, the WAP site promoted students' listening skills. In another study (Saran *et al.* 2008) the potential of multimedia messages and SMS quizzes for learning vocabulary was investigated. The instructor sent multimedia messages including vocabulary elaborated with images, example sentences, pronunciation of the words to the students, and then, they were required to complete SMS quizzes related with the given words. Based on the data obtained from interviews and SMS quizzes results, it was revealed that students favoured using their mobile phones to learn vocabulary, and they found the instructional materials engaging and interesting.

2.11. Previous Studies on Learning Strategies in Technology-enhanced Language Learning Context

Unfortunately, a few studies were conducted in the relevant area to explore learner actions in the current technology-enhanced learning context (Beres, 2011; Hourigan &Murray, 2010; Meurant, 2007; Chang, 2005; Razak, 2000; Vincent &Hah, 1996). Razak (2000) carried out a study to identify which learning strategies are employed by students in CALL classroom. After administering a CALL-strategy use questionnaire based on Oxford's (1989) SILL and interviewing students, she drew the following conclusions: learning and practicing through computers lowered students' anxiety level, and engaged them in the learning process. Besides, they made good use of Metacognitive, Affective, Cognitive and Social Strategies in CALL classroom, respectively. A similar study conducted by Vincent &Hah (1996) revealed that the most commonly used strategies were 'program use strategies' including 'using resources for learning', 'practicing', 'self-evaluation of CALL program'. Interestingly, learners rarely used Affective and Social Strategies.

This chapter aimed to shed light on the present research through reviewing the literature in detail. It began with Language learning strategies focusing on how they were identified, how they were classified by different researchers and how they were employed. Besides, the effects of integrating technology into language instruction were mentioned with reference to Computer assisted language learning (CALL) and Mobile assisted language learning (MALL). Previous studies which explored the potential of using emerging technologies including computers, mobile phones and the Internet technology in language learning process were also indicated.

CHAPTER THREE

METHODOLOGY

3.1. Introduction

This chapter is designed to shed light on the present research process through answering the questions regarding design of the study, participants, research tools, and data analysis. The chapter begins with describing the research methods exploited in the study along with the underlying reasons behind choosing the present method to identify strategies used by students to learn and practice English via technological means which refer to computers, mobile phones and the Internet technology in this study. It is followed by the demographic information pertaining to the participants. Then, the instruments used to collect data are explained in detail along with their construction and implementation processes. Finally, the route followed by the researcher to deal with the collected data is described.

3.2. Research Design

The present study aimed at examining the use of computer and mobile phone technology by students while learning and practicing English. The Internet usage was also questioned. To this end, both quantitative and qualitative methods were adopted, which was supported by Bryman (1988), who proposed that using a mixed method was necessary to get sound results. Particularly, questionnaires and interviews which were also used in this study cooperate effectively through helping the researcher first have a general idea about the issue via the questionnaire data, and then, providing in-depth analysis via the interview data (Nunan &Bailey, 2009). Initially, two different questionnaires including computers and the Internet scale, and mobile phones and the Internet scale were administered to the students. The main reason for choosing the questionnaire as a research tool was that it is a practical way of collecting data as it can be administered to a large group of students in a short time (Dörnyei &Taguchi, 2010; Dörnyei, 2007). The most commonly used scale in the relevant field was Oxford's SILL (Strategy Inventory for Language Learning) which also constitutes the starting point of the questionnaires designed for the present study (Chamot, 2005; O'Malley &Chamot, 1990). Then, several

interested students were picked based on the questionnaires results, and interviewed to have a clear understanding of how students make use of the mentioned technologies in their learning process (Gray, 2004). To confirm the feasibility of the study, and test efficiency of the scales, a pilot study was carried out as a preliminary research (Teijlingen &Hundley, 2001).

3.3. Participants of the Study

The present study was conducted at a state university in Turkey. The subjects consisted of undergraduate students who are studying at English Language Teaching Department. At the very beginning, participants were informed about the purpose of the study. Participants of the pilot study included 49 freshman students. As for the actual research, while a total of 75 students from two classes (First year and Second year students) within the same department voluntarily filled in the questionnaires designed by the researcher, only 10 students from among the ones whose performances were high on the questionnaires were chosen for the interview. The reason for including only first year and second year students was that they take courses which are designed to improve their main language skills (Listening, Speaking, Reading and Writing) supported with Grammar and Vocabulary courses. On the other hand, courses given in third and fourth classes mainly focus on integrating pedagogy and English content. They were aged between 18 and 34 years, and the majority of them were in their twenties. The participants were considered as equal in terms of their English language proficiency since all of them became eligible for B.A. program in English Language Teaching Department after getting an acceptable score in university placement test which mainly focused on grammar, vocabulary, and reading comprehension. Therefore, their scores were close to each other.

3.4. Data Collection Tools

As mentioned before, mixed method was used in this study including surveying and interviewing with students respectively. Compared to the other methods, mixed method is a relatively recent trend which emerged from the combination of quantitative and qualitative research methods (Nunan &Bailey, 2009). According to Johnson &Onwuegbuzie (2004:17) mixed methods research “is the class of research where the researcher mixes and combines quantitative and qualitative research techniques, methods, approaches, concepts, or language into a single study”. Since both approaches have both

strengths and weaknesses, using them together can help the researcher to maximize creditability and accountability of the research. Strengths of one of these methods can compensate for weaknesses of the other method (Dörnyei, 2007).

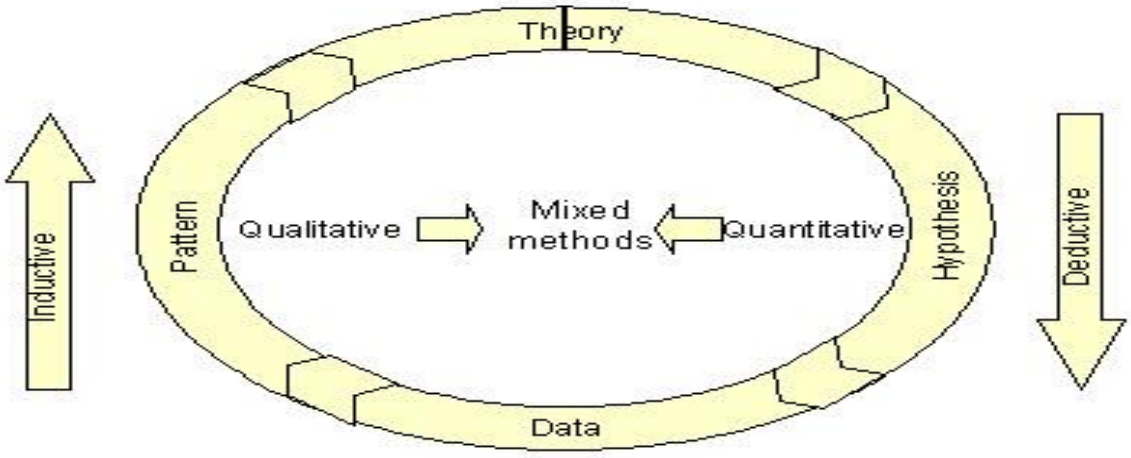

Figure 5. Mixed Method (taken from http://publications.mcgill.ca/lebulletel/2011/01/04/ exploration-des-methodes-mixtes in method-figure).

Adopting *the pragmatic method* and *system of philosophy*, mixed method research undergoes the following processes (Johnson &Onwuegbuzie, 2004):

-inductive reasoning (finding out principles),

-deductive reasoning (examining the already existing knowledge; theories, methods etc.),

-abducting (discovering or selecting among the research interpretations to have a clear idea about the research outcomes).

Mixed methods research has several notable benefits: a) it helps researchers to deal with more complicated topics, issues since they can get multiple results which lead to better understanding of such issues thanks to qualitative and quantitative data, b) it increases validity and provides more generalizable results, c) it addresses to a large group of onlookers with the extended results got from the different data collection methods (Dörnyei, 2007; Johnson *et al.*, 2007). In the next part, instruments used in the study to collect data will be mentioned.

3.4.1. The Questionnaire

Questionnaires are widely used in educational research and second language research as a research instrument. They refer to "any written instruments that present respondents with a series of questions or statements to which they are to react, either by writing out their answers or selecting from among existing answers" (Brown, 2001:6 cited in Nunan &Bailey, 2009). Their applicability to a large group of subjects at the same time has made questionnaires become one of the most commonly used research instruments especially in social sciences (Dörnyei &Taguchi, 2010). Among the other reasons why questionnaires are so popular are that they can be practically administered since there are standardized questionnaires embracing a wide range of issues, and they can be used to get a wide range of data and measure more than one variable including attitudes, beliefs, opinions etc. at the same time (Dörnyei, 2007). Although they are practical in terms of implementing and analyzing, designing a questionnaire is a quite challenging process which requires rigorous effort paying attention to the steps mentioned below (Nunan &Bailey, 2009).

3.4.1.1. Development &Implementation &Piloting the Questionnaire

In the present study, two questionnaires were employed: computers and the Internet scale, and mobile phones and the Internet scale. The questionnaires were designed by the researcher, and they aimed to identify learning strategies performed by the students to learn and practice English by using aforementioned technologies. The classification of the learning strategies (i.e. Memory Strategies, Cognitive Strategies, Social Strategies) was based on the Oxford's SILL (1989). In fact, the present questionnaires were inspired by the SILL after a painstaking literature review process. Dörnyei &Csizer (2012:77) suggests the following methods to develop questionnaire items:

-collecting qualitative, exploratory data through group discussions, semi-structured interviews or student essays written about the research topic,

-borrowing questions from established questionnaires.

Table 2. Steps in carrying out a questionnaire survey (taken from Nunan &Bailey, 2009).

Steps	Key questions
1. Define objectives	What do we want to find out?
2. Identify target population	Who do we want to know about?
3. Carry out a literature review	What have others said/discovered about the issue?
4. Determine sample	How many subjects should we survey and how will we identify them?
5. Identify survey instruments	Will the data be collected through questionnaires, interviews, or both?
6. Design survey procedures	How will the data collection actually be carried out?
7. Identify analytical procedures	How will the data be assembled and analyzed?
8. Determine reporting procedure	How will the results be presented?

In this study, items were written after semi-structured interviews conducted by the researcher. A total of 15 undergraduate students who were keen on searching and learning English through technology were selected, and interviewed. The interview questions prepared were partially based on the SILL. Simply put, the SILL's items were turned into questions with some small changes. However, these questions focused on the technology use including computer usage, mobile phone usage, and the Internet usage while employing learning strategies. The other questions were intended to clarify whether students used those technologies while practicing language skills (listening, reading, speaking, and writing) and areas (pronunciation, grammar, and vocabulary), and how they used them. The interviews were recorded and analysed. Through eliciting students' answers, two questionnaires which were identical except for the technological means used for each strategy were developed. While one these questionnaires was related to learning strategies performed through using computers, the other was mobile phones and the Internet scale which investigated learner strategies employed via mobile phones both with and without Internet access. Items were written through considering the following patterns: *a)* aiming for simple and short items, *b)* using simple and natural language, *c)* avoiding ambiguous or loaded words and sentences, *d)* avoiding negative constructions, *e)* avoiding double-barreled questions (Dörnyei &Csizer, 2012:78).

The questionnaires were 5-point likert scales which consisted of close-ended items. Each questionnaire consisted of two parts: in the first part several questions were proposed to obtain demographic information about the participants including age and gender, and to

find out how often they used computer technology and mobile phone technology, and finally their proficiency level in computer usage and English. Ownership of computers and smart phones was also questioned. Second part was aimed at identifying how they used computers and the Internet technology in one scale and mobile phones and the Internet technology in the other scale. Each questionnaire included 41 items, and they were administered on different days. Throughout the whole process from conducting the interviews to administering the questionnaires, the language used was Turkish. The purpose of preferring their native language was to prevent ambiguities and misunderstandings. After administering the questionnaires, they were translated into English by the researcher and checked by two different lecturers who are teaching at the English language teaching department. The questionnaires were piloted with a total of 49 freshmen students. It was followed by the reliability analysis, and the following Cronbach's Alpha Coefficients were found for each questionnaire: .9856 for computers and the Internet scale, and .9836 for mobile phones and the Internet scale which proved that the scales were highly reliable. However, several items were omitted since they were similar.

3.4.2. The Interview

Besides occupying an important place in everyday life, interviews are also commonly used as data collection tools in qualitative research (Nunan &Bailey, 2009; Dörnyei, 2007; Kajornboon, 2005). The preferred type for this study was semi-structured interview since it was less fixed enabling both interviewers and interviewees more freedom without straying far off the topic (Nunan &Bailey, 2009). In semi-structured interview, the interviewer acts as both guider and director supporting the interviewee to obtain additional details and explanations on the topic discussed (Dörnyei, 2007). According to Dowsett (1986:53 cited in Nunan &Bailey, 2009) semi-structured interviews "are quite extraordinary. The interactions are incredibly rich and the data indicate that you can produce extraordinary evidence about life that you do not get in structured interviews or questionnaire methodology".

3.4.2.1. Development &Implementation of the Interview

In the present study, interviews were carried out face-to-face in order to have a better understanding of how students use aforementioned technologies while learning English.

Based on the questionnaires results, the participants were selected among the ones who claimed that they frequently used the mentioned technologies to learn and use English. However, voluntariness was essentially the main criteria for participation. Therefore, volunteered students among the interested ones took part in the study. After ensuring that their personal information would be kept private and indicating that their answers would be recorded, participants were asked What Days / Hours they were available to be interviewed. Relying on their answers, a calendar was formed making sure that only one interview would be conducted in a day so that the researcher could transcribe and analyse the interviews in detail. All of the participants were interviewed within two weeks. The participants were interviewed in Turkish to create a less stressful atmosphere where they can express their thoughts more freely and easily. Since the questions prepared for the interview were similar to the questions asked during the interviews conducted to design the questionnaires, they were not piloted. However, an interview framework was prepared to capture the process:

-by ensuring that the domain is properly covered and nothing important is left out by accident,

-by suggesting appropriate question wordings,

-by offering a list of useful probe questions to be used if needed,

-by offering a template for the opening statement,

-by listing some comments to bear in mind (Dörnyei, 2007:137).

The interview consisted of three questions. The first question was about technological tools used by the participants while practicing English. In the first part students were asked how they used aforementioned technological devices and the Internet to improve their language skills including listening, speaking, reading, and writing respectively, whereas the second part questions aimed to reveal how they benefited from these technologies to improve their grammar, vocabulary, and pronunciation.

3.5. Data Collection Procedure

Initially, the questionnaires were administered to participants. However, they were administered on different days since they were fairly long including all of the six strategy groups launched by Oxford (1989); firstly computers and the Internet scale was given, and then, mobile phones and the Internet scale was delivered to the participants. Before

carrying out the questionnaires, participants were provided with necessary information including the purpose of the study, and they were encouraged to ask if they had any questions. After carrying out the questionnaires, they were analysed and the ones who were found to employ learning strategies more frequently compared to their peers were asked if they wanted to participate in the interview session. Among the ones who volunteered to take part in this session, ten students were randomly picked to be interviewed. Only one participant was interviewed for each day, and in that way, all participants were interviewed in two weeks. Each interview session lasted approximately for one hour. During and after the data collection process, identities of the participants were kept confidential. During the interviews, students were given pseudonyms such as student A, B, C, and so on.

3.6. Data Analysis

In the present study, both qualitative and quantitative data analysis methods were employed to find answers to the following research questions:

1-What kind of LLSs do students use while learning English through the medium of computers and the Internet technology?

2- What kind of LLSs do students use while learning English through the medium of mobile phones and the Internet technology?

3- Is there a gender related difference in the use of LLSs by means of computers and mobile phones?

4- Is there a difference between LLS use via computers and via mobile phones?

5- Is there a difference between students owning smartphones and students having cell phones in their use of LLSs via computers and via mobile phones?

The quantitative data collected through questionnaires were analysed through Statistical Package for Social Sciences (SPSS 18.0). In order to interpret the data, mean scores, frequency rates, standard deviations were calculated after confirming applicability of the questionnaires through reliability analysis. After the analysis, Cronbach alpha for each questionnaire was found as in the following: .9856 for computers and the Internet scale, and .9836 for mobile phones and the Internet scale. Since this study was an attempt

for portraying learning activities employed by the participants via technological means, descriptive statistics were mainly used.

In order to analyse the interview data, content analysis procedure was followed. The correspondence between research questions and interview questions was examined. The interview questions were revised to ensure that they were exactly related with the research issues and clear. After completing the interviews, the recordings were transcribed. The transcripts were translated into English and checked by another English lecturer. The answers were classified under several distinct categories considering similarities and differences among them.

This chapter attempted to provide detailed information about the research process explaining all the steps taken from beginning to the end. Firstly, design of the study was clarified, and it was followed by demographic information of the participants. Then, data collection instruments used in the study and their construction procedures were illustrated. Finally, data collection process and analysis of collected data were explained.

CHAPTER FOUR

RESULTS

4.1. Introduction

In this chapter, detailed descriptions of the findings based on the questionnaires and the interview analyses will be presented in an attempt to find answers to the research questions. In the first part, questionnaire results obtained from the analysis performed by SPSS18.0 will be displayed. First, demographic information pertaining to the participants will be provided. In the second part, the findings obtained from the quantitative data will be analysed. The last part focuses on the qualitative data gained through the analysis of the interview data.

4.2. Questionnaire Results

4.2.1. Demographic Characteristics of the Participants

4.2.1.1. Gender and Age: As shown in Table 3, the number of the female participants outweighed the number of the male students. While 69,3% (N=52) of the respondents were female, 30,7% (N=23) of them were male.

Table 3. Percentage of the Participants in Terms of Gender

Gender	f	%
Male	23	30,7
Female	52	69,3
Total	75	100

The participants' ages were found to be close to each other. The majority of the students (N=46) were between 17 and 20 years. The rest of the respondents (N=29) were 20 or over 20 years old (see Table 4).

Table 4. Percentage of the Participants in Terms of Age

Age	f	%
between 17-20 years	46	61,3
20 years and over	29	38,7
Total	75	100

4.2.1.2. Students' Perceived Level of English Proficiency: In the first part of the questionnaire, participants were asked to rate their English proficiency from "very poor" to very good". It was found that students had high level of perceptions of proficiency in English since 58,7% of the respondents claimed that they were good at English while only 4% of them acknowledged that their English were poor. An average number of students (30,7%) rated their English proficiency as "fair". Lastly, 6,7% of the respondents indicated that they had a high proficiency in English (Table 5).

Table 5. Students' Perceived Level of English Proficiency

Proficiency Level	f	%
Very Poor	0	0
Poor	3	4
Fair	23	30,7
Good	44	58,7
Very Good	5	6,7
Total	75	100

4.2.1.3. Frequency of Computer and Mobile Phone Use: When students were asked how often they used computers while learning English, majority of the respondents (45,3%) indicated that they often used computers. 28% of the participants sometimes referred to computers. Only 12% of students stated that they rarely used computers while studying English (see Figure 6).

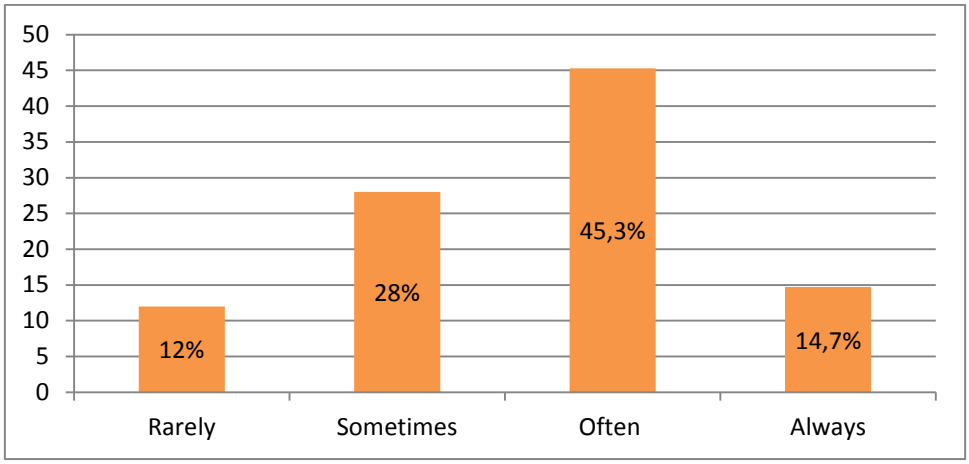

Figure 6. Frequency of Computer Use While Learning English.

Analysis of the data obtained from respondents related to frequency of mobile phone use while learning English revealed that 41,3% of the participants often used mobile phones whereas 30,7% of them sometimes benefited from mobile phones while studying English. On the other hand, 5,3% of the participants reported that they did not use mobile phones to improve their English (see Figure 7).

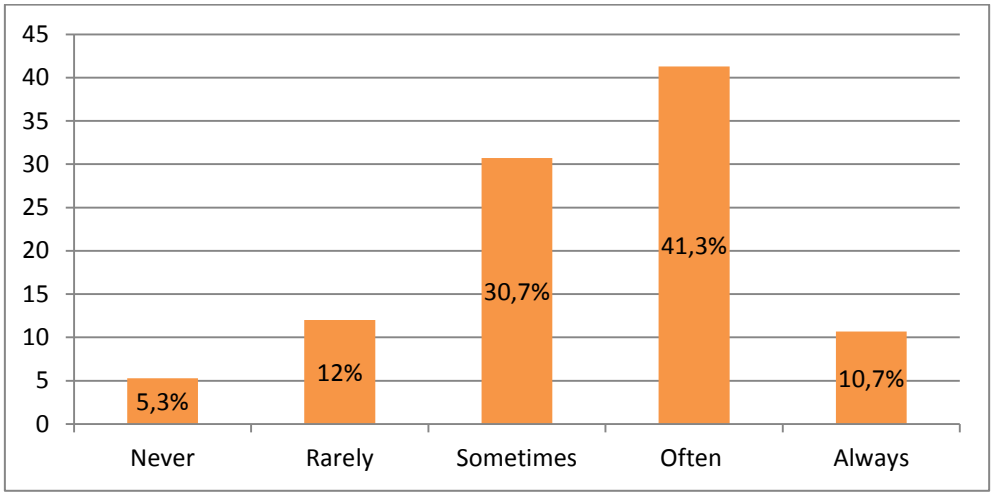

Figure 7. Frequency of Mobile Phone Use While Learning English

4.2.1.4. Frequency of Internet Use per Week: Responses of participants to the question which was about frequency of Internet use per week showed that more than half of the participants (62,7%) used the Internet less than 10 hours per week, and 21,3% of them reported that they used between 10 to 19 hours. Lastly, 16% of them used it more than 20 hours per week as indicated in Figure 8.

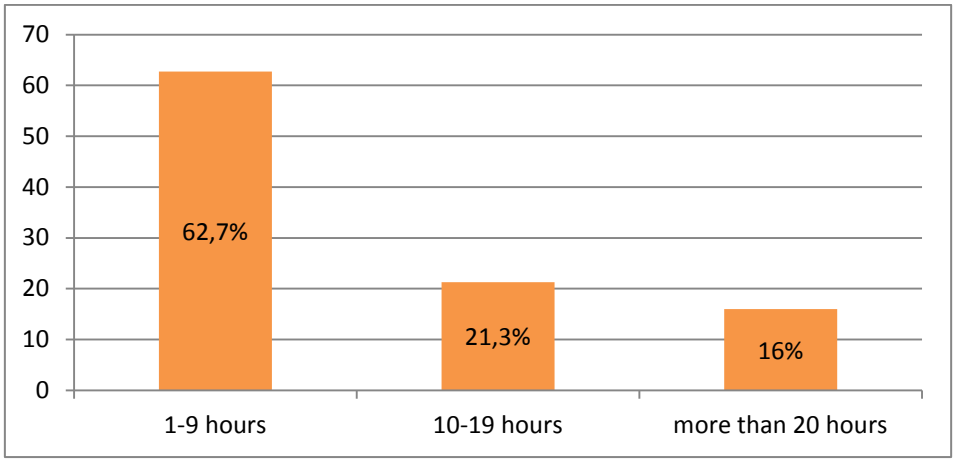

Figure 8. Frequency of Internet Use per Week.

4.2.1.5. Internet Access: Another question directed to the participants was how they accessed to the Internet. As represented in Table 6, slightly more than half of the participants (50,7%) stated that they had home Internet access, 20% of them used Internet cafes for accessing the Internet, and 29,3% of the respondents reported connecting to the Internet through wireless at public places such as cafes, shops etc. Besides, they benefited from Internet-connected computers in the university library.

Table 6. Accessing the Internet

Internet Access	f	%
Home	38	50,7
Internet Café	15	20
Other	22	29,3
Total	75	100

4.2.1.6. Computer and Mobile Phone Ownership: Participants were also asked whether they had computers and mobile phones. As Table 7 reveals, 70,7% of the respondents confirmed that they had computers while 29,3% of them did not possess computers.

Table 7. Computer Ownership

Computer Ownership	f	%
Yes	53	70,7
No	22	29,3
Total	75	100

As for possessing mobile phones, 65,3% of the participants reported to have cell phones, and 34,7% of them indicated that they owned smart phones (see Table 8).

Table 8. Mobile Phone Ownership

Mobile Phone Ownership	f	%
Smart Phone	26	34,7
Cell Phone	49	65,3
Total	75	100

Participants were also asked whether they connected to the Internet on their mobile phones. 69,3% of them stated that their mobile phones had Internet access. Of the participants who owned mobile phones with the Internet connection, 63,4% of them had mobile Internet packages, and 36,5% of the respondents reported that they connected to the Internet through wi-fi as shown in Figure 9.

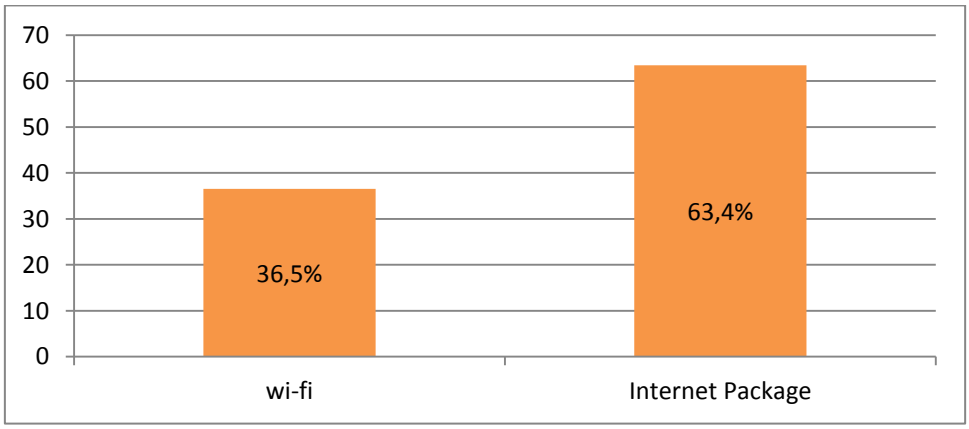

Figure 9. Connecting to the Internet via Mobile Phones.

4.2.2. Descriptive Statistics

Firstly, Computers and the Internet Scale was administered to the participants, and then, they were asked to fill out Mobile Phones and the Internet questionnaire. In this part, descriptive statistics for both questionnaires will be presented respectively.

4.2.2.1. Language Learning Strategies Used by Students via Computer and the Internet Technology: The overall mean score (M=3,01) of Strategy Use through the medium of Computers and the Internet technology indicates that students use language learning strategies mentioned in the scale to a certain extent (see Figure 10). Among the six subscales, Affective Strategies were found to be used more than any other strategies by the participants (M=3, 65). Compensation Strategies were the second mostly used strategy type (M=3, 46) and it was followed by Cognitive Strategies (M=3, 21), Metacognitive Strategies (M=2, 91) and Memory Strategies (M=2, 67) respectively. Finally, Social Strategies (M=2, 39) were recorded as the least used strategies by the language learners (see Figure 10).

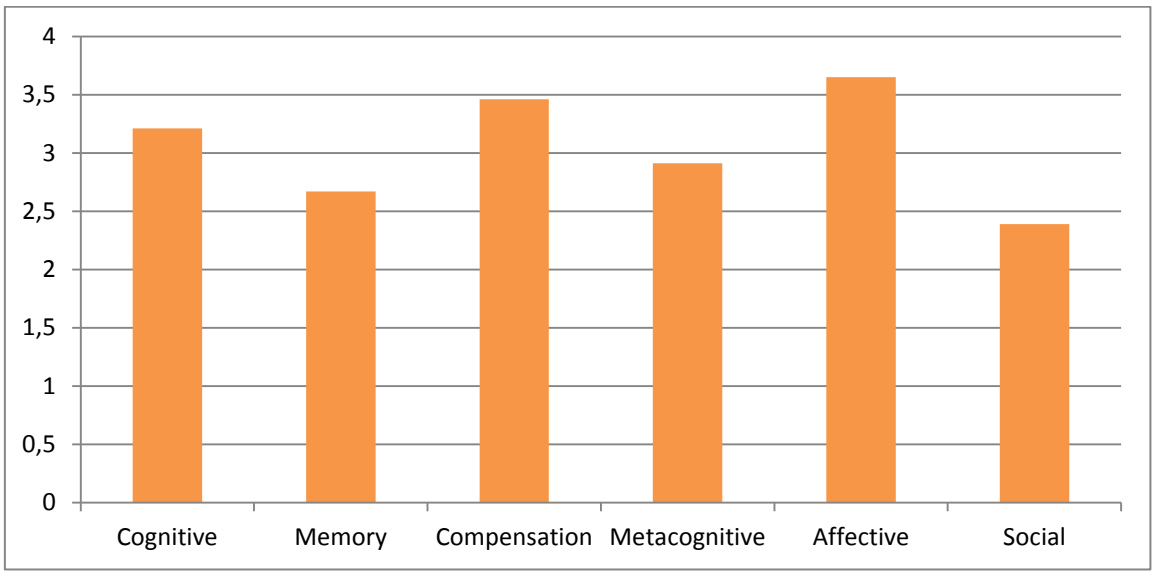

Figure 10. Language Learning Strategies Used by EFL Students via Computers and the Internet Technology.

4.2.2.1.1. Cognitive Strategies: Total mean score of Cognitive Strategies (M=3, 21) which constitute the first part of the scale suggests that students sometimes employ these strategies. As Table 9 reveals, majority of the students frequently search for the topic that they will write on the Internet before writing (M=4,36), and conduct online research via computers while doing their homework (M=4,28). A great number of students stated that they made good use of the following strategies: searching for the correct use of vocabulary and sentence structures that they want to use while writing in English on the Internet via computers (M=3,88), using online English dictionaries on computers (M=3,84), searching the lyrics of English songs on the Internet via computers (M=3,62), and making use of the translation facilities on the Internet (google translation, online dictionaries etc.) via

computers (M=3,56) respectively with the mean score above 3.50. On the other hand, it was found that students rarely studied grammar/did exercises on grammar websites (M=2,84), listened to English podcasts (M=2,78), read short stories, novels, comic strips etc. on computers (M=2,54). The least used strategy reported by the participants was listening to English audio books on computers (M=1,94).

Table 9. Cognitive Strategies Used by Learners via Computers and the Internet Technology

Items	Mean	SD
11-Before writing, I search for the topic that I will write on the Internet via computers.	4,36	0,69
15-I conduct online research via computers while doing my homework.	4,28	0,79
12-I search for the correct use of vocabulary and sentence structures that I want to use while writing in English on the Internet via computers.	3,88	0,99
2-I use online English dictionaries on computers.	3,84	0,97
3-I search the lyrics of English songs on the Internet via computers.	3,62	1,14
14-I make use of the translation facilities on the Internet (e.g. google translation,.) via computers.	3,56	1,11
1-I watch English movies/short videos on computers.	3,38	1,06
4-I listen and repeat sound files in English using computers.	3,29	1,08
5-I study grammar/do exercises on grammar websites via computers.	2,84	1,18
13-I communicate with foreigners through writing on social communication networks (facebook, twitter, WhatsApp etc.) via computers.	2,82	1,39
6-I listen to English podcasts on computers.	2,78	1,22
9-I read English magazines and newspapers on the Internet via computers.	2,72	1,15
8-I read short stories, novels, comic strips etc. on computers.	2,54	1,17
10-I chat with foreigners on the Internet (skype, facebook video calling etc.) via computers.	2,33	1,30
7-I listen to English audio books on computers.	1,94	1,03

4.2.2.1.2. Memory Strategies: As indicated in Table 10, Memory Strategies (M=2, 67) were the second least preferred strategies by the students who took part in this study. Participants stated that they occasionally run over the grammar rules on the Internet through using computers (M=3,29). However, they rarely examined how English words are used to keep them in mind easily on a computer with Internet connection (M=2,69), and jotted down the words that they learnt with their meanings on computers to repeat them later (M=2,02).

Table 10. Memory Strategies Used by Learners via Computers and the Internet Technology

Items	Mean	SD
18-I run over the grammar rules on the Internet using computers.	3,29	1,11
17-On a computer with an Internet connection, I examine how the English words are used to keep them in mind easily.	2,69	1,26
16-I jot down the words that I learned with their meanings on computers to repeat them later.	2,02	1,28

4.2.2.1.3. Compensation Strategies: As Table 11 reveals, Compensation Strategies were ranked as the second mostly employed strategies among six main subscales (M=3, 46) by the participants. Learners claimed that they often searched for help on the Internet using computers when running into the structures or words that they did not know (M=3,85). Item 21 (When I have difficulty in using or understanding a grammar topic, I check the use of it on the Internet via computers) (M=3,28) and item 20 (When I run into the structures or words that I don't know, I watch the relevant videos on the Internet using computers)(M=3,26) were reported as occasionally used strategies by the students.

Table 11. Compensation Strategies Used by Learners via Computers and the Internet Technology

Items	Mean	SD
19-When I run into the structures or words that I don't know, I search for help on the Internet using computers.	3,85	1,07
21-When I have difficulty in using or understanding a grammar topic, I check the use of it on the Internet via computers.	3,28	1,16
20-When I run into the structures or words that I don't know, I watch the relevant videos on the Internet using computers.	3,26	1,20

4.2.2.1.4. Metacognitive Strategies: Learners stated that they sometimes used Metacognitive Strategies (M=2, 91) via Computers and the Internet Technology while learning English. As shown in Table 12, they frequently read texts with similar topics or genres on the Internet by using a computer to have an idea about the topic or genre that they were going to write (M=3,92), and conducted research about the topic that they would learn before the lesson on the Internet through using computers (M=3,86). On the other

hand, item 22 (I search for how other people learn English on the Internet using computers) (M=2,36) and item 23 (I make a "to-do list" for my upcoming studies on a computer) (M=2,18) were rarely employed by the participants. Finally, item 24 (While speaking English, I record my voice on a computer, and then I listen to it) (M=1,70) was recorded as the least preferred strategy in this category.

Table 12. Metacognitive Strategies Used by Learners via Computers and the Internet Technology

Items	Mean	SD
25-Before writing an essay, I read texts with similar topics or genres on the Internet by using a computer.	3,92	1,07
29-I examine the topic that I will learn to have an idea about it before the lesson using computers.	3,86	1,16
28-When I prepare for a presentation, I watch videos to examine the speakers' mimes, gestures and the way they talk using a computer.	3,22	1,35
27-Using computers, I search for the ways to improve my language skills on the Internet.	3,13	1,13
26-On a computer, I compare my essays with other essays having the same or similar genre or topic.	2,94	1,20
22-I search for how other people learn English on the Internet using computers.	2,36	1,24
23-I make a "to-do list" for my upcoming studies on a computer.	2,18	1,39
24-While speaking English, I record my voice on a computer, and then I listen to it.	1,70	0,99

4.2.2.1.5. Affective Strategies: Overall mean score of Affective Strategies (M=3, 65) revealed that they were the most frequently preferred strategies by the participants. As illustrated in Table 13, item 31 (Listening to English songs on computers make me feel relaxed) (M=3,78), item 32 (Watching English videos or movies on computers make me feel relaxed)(M=3,72) and item 33 (I feel relaxed if my computer is with me while studying English)(M=3,64) were recorded as frequently used strategies in this category with the mean score above 3, 50. Item 30 (I feel more confident when my computer is with me while studying English) (M=3,45) was also exploited by the participants consistently.

Table 13. Affective Strategies Used by Learners via Computers and the Internet Technology

Items	Mean	SD
31-Listening to English songs on computers makes me feel relaxed.	3,78	1,32
32-Watching English videos or movies on computers make me feel relaxed.	3,72	1,18
33-I feel relaxed if my computer is with me while studying English.	3,64	1,26
30-I feel more confident when my computer is with me while studying English.	3,45	1,32

4.2.2.1.6. Social Strategies: According to questionnaire analysis, Strategies (M=2, 39) in this category were the least preferred ones by the students. As Table 14 reveals, students sometimes referred to item 39 (When I have problems with my homework I ask for help from my classmates or foreign friends on the Internet by using computers) (M=3,17) and item 41 (My classmates and I exchange some course materials on the Internet by using computers) (M=3,08) while learning English. On the other hand, item 38 (I send my writing homeworks to my foreign friends, and ask them to check my writings on the Internet by using computers) (M=1,70) and item 35 (I send my essays to peer editing websites on the Internet by using computers) (M=1,56) were reported as the least frequently used Social Strategies by the participants.

Table 14. Social Strategies Used by Learners via Computers and the Internet Technology

Items	Mean	SD
39-When I have problems with my homework, I ask for help from my classmates or foreign friends on the Internet by using computers.	3,17	1,21
41-My classmates and I exchange some course materials on the Internet by using computers.	3,08	1,36
40-I conduct research on the Internet to get familiar with English and American culture by using computers.	2,57	1,17
37-My classmates and I send our English essays to each other through the Internet using computers and give feedback to each other.	2,46	1,29
36-We do our group works together with members of the group on the Internet by using computers.	2,45	1,27
34-I search for foreign friends on social networking websites to speak English by using computers.	2,16	1,28
38-I send my writing home works to my foreign friends, and ask them to check my writings on the Internet by using computers.	1,70	1,02
35-I send my essays to peer editing websites on the Internet by using computers.	1,56	0,90

4.2.2.2. Language Learning Strategies Used by Students via Mobile Phones and the Internet Technology: Overall mean score of language learning strategies exploited by the students by means of mobile phones and the Internet technology (M=2,60) proves that learners seldom use the following subsets of strategies: Cognitive, Memory, Compensation, Metacognitive, Affective, and Social Strategies. Affective Strategies (3, 30) were reported as the most frequently used strategies by the participants, and it was followed by Compensation (M=2,77), Cognitive (M=2,70), Metacognitive (M=2,47), and Memory (M=2,33) Strategies respectively. Social Strategies (M=2,22) were the least preferred strategies by the students (see Figure 11).

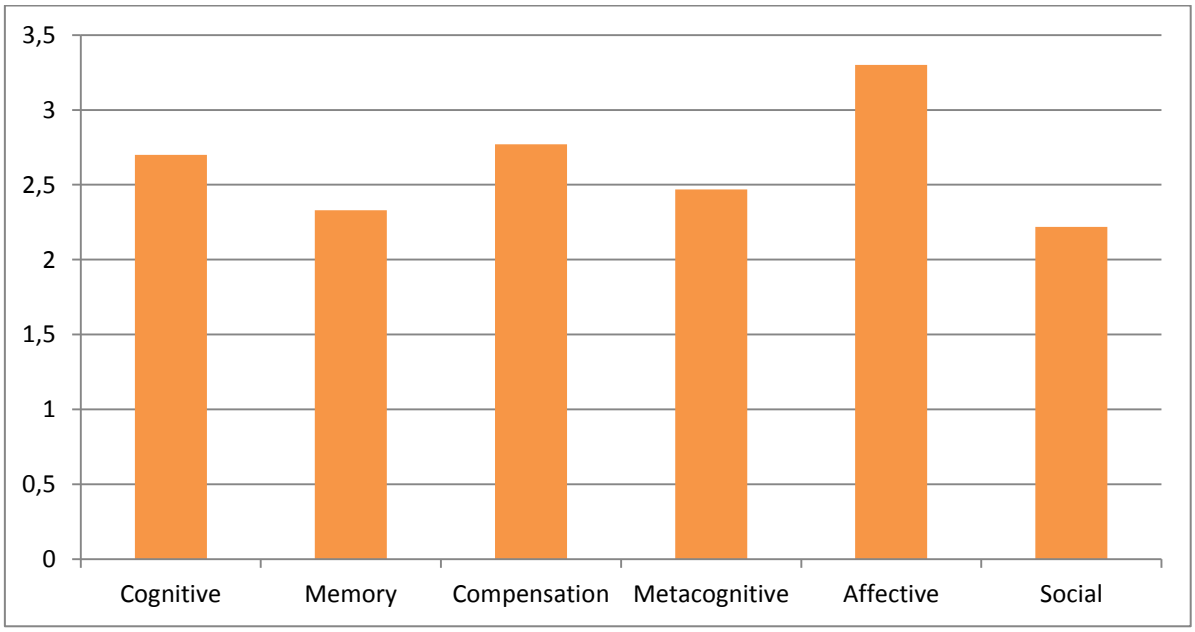

Figure 11. Language Learning Strategies Used by EFL Students via Mobile Phones and the Internet Technology.

4.2.2.2.1. Cognitive Strategies: Strategies in this category were found to be occasionally used by the students (M=2, 70). As table 15 reveals, participants consistently used the following Cognitive Strategies with mean score above 3,00; using online English dictionaries on mobile phones (M=3,50), listening and repeating sound files in English on mobile phones (M=3,42), making use of translation facilities on the Internet (google translation, online dictionaries etc.) through mobile phones (M=3,06), and searching the lyrics of English songs on the Internet through mobile phones (M=3,0). However, they seldom took advantage of the strategies mentioned below; watching English movies/short videos (M=2,50), chatting with foreigners on the Internet (skype, facebook video calling

etc.) (M=2,37), studying grammar/doing exercises on grammar websites through mobile phones (M=2,33). The least preferred Cognitive Strategies were listening to English audio books (M=1,88), and reading short stories, novels, comic strips etc. on mobile phones (M=1,90), respectively.

Table 15. Cognitive Strategies Used by Learners via Mobile Phones and the Internet Technology

Items	Mean	SD
2-I use online English dictionaries on my mobile phone.	3,50	1,37
4-I listen and repeat sound files in English on my mobile phone.	3,42	1,19
14-I make use of the translation facilities on the Internet (e.g. google translation) through my mobile phone.	3,06	1,41
3-I search the lyrics of English songs on the Internet through my mobile phone.	3,0	1,34
12-I search for the correct use of vocabulary and sentence structures that I want to use while writing in English on the Internet through my mobile phone.	2,97	1,39
11-Before writing, I search for the topic that I will write on the Internet through my mobile phone.	2,89	1,51
15-I conduct online research through my mobile phone while doing my homework.	2,82	1,38
13-I communicate with foreigners through writing on social communication networks (facebook, twitter, WhatsApp etc.) through my mobile phone.	2,72	1,41
6-I listen to English podcasts on my mobile phone.	2,68	1,30
9-I read English magazines and newspapers on the Internet through my mobile phone.	2,54	1,39
1-I watch English movies/short videos on my mobile phone.	2,50	1,29
10-I chat with foreigners on the Internet (skype, facebook video calling etc.) through my mobile phone.	2,37	1,47
5-I study grammar/do exercises on grammar websites through my mobile phone.	2,33	1,28
8-I read short stories, novels, comic strips etc. on my mobile phone.	1,90	1,14
7-I listen to English audio books on my mobile phone.	1,88	1,10

4.2.2.2.2. Memory Strategies: Overall mean score of Memory Strategies (M=2, 33) indicates that students quite rarely employed those strategies. As illustrated in Table 16, learners barely made use of item 16 (I jot down the words that I learned with their meanings on my mobile phone to repeat them later) (M=2,37), item 18 (I run over the grammar rules on the Internet through my mobile phone) (M=2,36), and item 17 (On my mobile phone with Internet connection, I examine how the English words are used to keep them in mind easily) (M=2,26) while learning English.

Table 16. Memory Strategies Used by Learners via Mobile Phones and the Internet Technology

Items	Mean	SD
16-I jot down the words that I learned with their meanings on my mobile phone to repeat them later.	2,37	1,35
18-I run over the grammar rules on the Internet through my mobile phone.	2,36	1,30
17-On my mobile phone with Internet connection, I examine how the English words are used to keep them in mind easily.	2,26	1,24

4.2.2.2.3. Compensation Strategies: Strategies in this subscale were found to be hardly used by the participants (M=2, 77). As seen in Table 17, learners sometimes searched for help on the Internet when running into the structures or words which they did not know through their mobile phones (M=3,0) whereas they seldom exploited item 20 (When I run into the structures or words that I don't know, I watch the relevant videos on the Internet my mobile phone) (M=2,66) and item 21 (When I have difficulty in using or understanding a grammar topic, I check the use of it on the Internet through my mobile phone) (M=2,66).

Table 17. Compensation Strategies Used by Learners via Mobile phones and the Internet Technology

Items	Mean	SD
19-When I run into the structures or words that I don't know, I search for help on the Internet through my mobile phone.	3,0	1,37
20-When I run into the structures or words that I don't know, I watch the relevant videos on the Internet via my mobile phone.	2,66	1,44
21-When I have difficulty in using or understanding a grammar topic, I check the use of it on the Internet through my mobile phone.	2,66	1,26

4.2.2.2.4. Metacognitive Strategies: Metacognitive Strategies were proved to be rarely used by the participants with overall mean score below 3 (M=2, 47). The most frequently used Metacognitive Strategy was making a "to-do list" for their upcoming studies on mobile phones (M=2,90). It was followed by item 29 (I examine the topic that I will learn to have an idea about it before the lesson on the Internet through my mobile phone) (M=2,72) and item 25 (Before writing an essay, I read texts with similar topics or genres on the Internet through my mobile phone) (M=2,66). As Table 18 reveals, students rarely referred to the following strategies: comparing their essays with other essays having the

same or similar genre or topic (M=2,25), searching for how other people learn English on the Internet (M=2,20), recording their voice while speaking English, and then listening to it (M=2,20) on the Internet through their mobile phones.

Table 18. Metacognitive Strategies Used by Learners via Mobile Phones and the Internet Technology

Items	Mean	SD
23-I make a "to-do list" for my upcoming studies on my mobile phone.	2,90	1,60
29-I examine the topic that I will learn to have an idea about it before the lesson on the Internet through my mobile phone.	2,72	1,43
25-Before writing an essay, I read texts with similar topics or genres on the Internet through my mobile phone.	2,66	1,34
28-When I prepare for a presentation, I watch videos to examine the speakers' mimes, gestures and the way they talk on the Internet through my mobile phone.	2,52	1,43
27-I search for the ways to improve my different language skills on the Internet through my mobile phone.	2,34	1,32
26-I compare my essays with other essays having the same or similar genre or topic on the Internet through my mobile phone.	2,25	1,12
24-While speaking English, I record my voice on my mobile phone, and then I listen to it.	2,20	1,27
22-I search for how other people learn English on the Internet through my mobile phone.	2,20	1,20

4.2.2.2.5. Affective Strategies: Strategies in this category were reported as the most frequently employed strategies by the participants (see Table 19). Item 31 (Listening to English songs on my mobile phone makes me feel relaxed) (M=3,72) was the most preferred one among the students with mean score above 3,50 which meant that they often used that strategy. It was followed by item 30 (I feel more confident when my mobile phone is with me while studying English) (M=3,29), item 33 (I feel relaxed if my mobile phone is with me while studying English) (M=3,28) and item 32 (Watching English videos or movies on my mobile phone makes me feel relaxed) (M=2,93), respectively.

Table 19. Affective Strategies Used by Learners via Mobile Phones and the Internet Technology

Items	Mean	SD
31-Listening to English songs on my mobile phone makes me feel relaxed.	3,72	1,35
30-I feel more confident when my mobile phone is with me while studying English.	3,29	1,35
33-I feel relaxed if my mobile phone is with me while studying English.	3,28	1,46
32-Watching English videos or movies on my mobile phone make me feel relaxed.	2,93	1,49

4.2.2.2.6. Social Strategies: Social Strategies were the least common learning strategies exploited by the students by means of mobile phones and the Internet technology (M=2, 22). Although they sometimes asked for help from their classmates or foreign friends on the Internet through their mobile phones when having problems with their homework (M=3,04), they scarcely made use of the following strategies: searching for foreign friends on social networking websites to speak English (M=2,18), conducting research on the Internet to get familiar with English and American culture (M=2,18), sending their essays to peer editing websites on the Internet via their mobile phones (M=1,68).

Table 20. Social Strategies Used by Learners via Mobile Phones and the Internet Technology

Items	Mean	SD
39- When I have problems with my homework, I ask for help from my classmates or foreign friends on the Internet through my mobile phone.	3,04	1,25
41- My classmates and I exchange some course materials on the Internet through our mobile phones.	2,54	1,24
36- We do our group works together with members of the group on the Internet via our mobile phones.	2,30	1,28
37- My classmates and I send our English essays to each other through the internet using our mobile phones and give feedback to each other.	2,22	1,26
34- I search for foreign friends on social networking websites to speak English via my mobile phone.	2,18	1,36
40- I conduct research on the Internet to get familiar with English and American culture through my mobile phone.	2,18	1,23
35- I send my essays to peer editing websites on the Internet via my mobile phone.	1,68	1,08
38- I send my writing home works to my foreign friends, and ask them to check my writings on the Internet via my mobile phone.	1,64	1,04

Item 38 (I send my writing home works to my foreign friends and ask them to check their writings on the Internet via their mobile phones) (M=1,64) was the least popular Social Strategy among the students (see Table 20).

4.2.3. Inferential Statistics

4.2.3.1. Gender Differences in the Use of Learning Strategies

In order to find out whether there is any meaningful difference between gender and strategy use via computers and the Internet technology, an independent sample t-test was conducted. As Table 21 shows, the p value (p=, 313) was found to be higher than 0, 05 which indicates that there was no significant difference between male and female participants in terms of employing learning strategies through using computers and the Internet technology. Nevertheless, it was revealed that females were slightly better than males in employing learning strategies benefiting from computers and the Internet technology.

Table 21: Independent Samples t-test for Gender Differences in the Use of Learning Strategies via Computers and the Internet Technology

	n	M	SD	t	df	Sig.
Female	52	125,7	25,8			
Male	23	119,3	23,8	1,01	73	,313

p>0,05

Difference between gender and the use of learning strategies through mobile phones and the Internet technology was also questioned. As indicated in Table 22, there was not a meaningful difference between gender and strategy use (p=, 155). On the other hand, female participants were found to be more enthusiastic about exploiting mobile phones and the Internet technology while practicing English.

Table 22: Independent Samples t-test for Gender Differences in the Use of Learning Strategies via Mobile Phones and the Internet Technology

	n	M	SD	t	df	Sig.
Female	52	110,6	36,2			
Male	23	98,1	31,4	1,43	73	,155

p>0,05

4.2.3.2. The Difference between Strategy Use via Computers and the Internet and via Mobile Phones and the Internet Technology

Paired-Samples t-test was conducted in an attempt to determine whether there was a meaningful difference between participants' strategy use via computers and the Internet technology and mobile phones and the Internet technology. As shown in Table 23, there was a significant difference between strategies employed by the students through using computers and the Internet and mobile phones and the Internet as p value was lower than the significant value (p=,001). Simply put, learners benefited from computers and the Internet far more than mobile phones and the Internet technology while studying English.

Table 23: Paired-Samples t-test Results for the Difference between use of Computers and the Internet and Mobile phones and the Internet

Using Learning Strategies	Via Computer and the Internet	Via Mobile Phone and the Internet	95% CI Lower	95% CI Upper	t	df	p-value
	3,01	2,60	7,27	26,58	3,49	74	,001*

*p<0,05

4.2.3.3. The Difference between Types of Mobile Phones Owned by the Students and the Use of Learning Strategies

An Independent Samples t-test was applied in order to reveal whether there was a statistically significant difference between students having smart phones and owning cell phones in terms of employing learning strategies via computers and the Internet. As illustrated in Table 24, there was not a significant difference between types of mobile phones possessed by the students and use of learning strategies via computers and the Internet (p=,077). Nevertheless, it was reported that students who had smart phones exploited learning strategies through computers and the Internet more frequently than the students owning cell phones.

Table 24: Independent Samples t-test for Mobile Phone Differences in the Use of Learning Strategies via Computers and the Internet Technology

	n	M	SD	t	df	Sig.
Smart Phone	26	130,8	26,2			
Cell Phone	49	120	24,1	1,79	73	,077

p>0,05

As it is shown in Table 25, the difference between types of mobile phones owned by the participants and use of learning strategies via mobile phones and the Internet was queried too. The results indicated that there was not any significant difference between students possessing smart phones and using cell phones in making use of learning strategies by means of mobile phones and the Internet (p=,265). On the other hand, the respondents using smart phones claimed to use learning strategies through mobile phones and the Internet more often than the ones owning cell phones.

Table 25: Independent Samples t-test for Mobile Phone Differences in the Use of Learning Strategies via Mobile Phones and the Internet Technology

	n	M	SD	t	df	Sig.
Smart Phone	26	113	34,7			
Cell Phone	49	103,5	35,2	1,12	73	,265

p>0,05

4.3. Interview Results

In this part of the chapter, interview results will be presented in detail to shed light on how the participants exploit emerging technologies mentioned above while learning English. The participants were limited to 10 undergraduate students. The following three questions were asked during the interviews:

-What kind of technological tools do you use while studying English?

-How do you use these tools to enhance your language skills?

-How do you use these tools to improve your grammar, vocabulary and pronunciation?

4.3.1. Technological Tools Commonly Used by the Learners of English: The first question of the interview focused on what kind of technologies students use while studying English. It was noted that majority of the students made use of computers connected to the Internet whereas some of them used mobile phones with the Internet connection. Computers not connected to the Internet were also exploited by the learners, which was followed by Mp3 use. Lastly, few of the participants claimed to use mobile phones without the Internet connection while learning English. The reasons for using those technologies were explained by the participants as in the following:

"I frequently make use of computers and the Internet to study English since there are many websites which are free and help you to practice English. I also use my mobile phone especially for looking up words online." (Respondent 1)

"I often use computers and the Internet to improve my writing. Besides, mp3 player is my favourite. I upload English podcasts to my mp3 player and listen to them especially when I am on the bus on my way to the school."(Respondent 2)

"Mostly, I use my laptop connected to the Internet especially for doing my home works, and my mobile phone to listen English songs." (Respondent 5).

One of the respondents who owned a smart phone had a different answer:

"My smart phone is my favourite since it can do anything a computer does, and it is very practical, because I can use it whenever I need as I carry it with me all the time."(Respondent 9).

Another respondent's preferences for technological tools were as follows:

"I often use my mp3 player to listen English songs and podcasts. Sometimes, I take advantage of computers specifically to prepare my presentations and other homework activities." (Respondent 7).

As it can be inferred from the responses elicited, participants mainly referred to computers connected to the Internet during their language learning process, and it was followed by mobile phones with the Internet connection. Not being part of this study, mp3 players were also mentioned to be used in language learning.

4.3.2. Using Technological Tools to Enhance Language Skills: The second question aimed at clarifying how students used computers and mobile phones with/without an Internet connection to improve their listening, reading, speaking and writing skills respectively. Firstly, the participants were asked what they did to practice their English listening skills. Although several activities such as watching movies, listening to English songs were commonly preferred ones by the participants, there were several differences among them in terms of their priorities based on their needs and interests:

"I have difficulty in understanding what native speakers say since they pronounce some words quite differently from the way we do. Therefore, I frequently listen to podcasts on my computer to get familiar with native speakers' pronunciation." (Respondent 10).

"I like watching English news channels such as BBC, CNN etc. on my computer since watching news helps me improve my listening comprehension and remain up to date on what's happening around the world."(Respondent 5).

"I like watching movies especially adventurous movies on my computer. Therefore, I watch English movies sometimes with English subtitles. It is both entertaining and beneficial for my listening skills."(Respondent 8).

"I watch English documentaries which give insights about the target culture both to get familiar with the English culture and to enhance my listening skills."(Respondent 1).

"There are many online Toefl preparation websites which provide free listening resources. I practice my listening in such websites through taking listening tests and checking my scores. After checking my scores, I look at the transcript of the recording to see the parts that I missed while listening on my computer. I also watch English movies generally with English subtitles" (Respondent 2).

"I listen to English songs with their lyrics on my mobile phone. It really contributes to both my listening and pronunciation. I also like watching short English videos especially the ones related with the technological developments on my mobile phone" (Respondent 4).

One of the respondents who claimed to have poor listening skills referred to the following materials to consolidate her listening skills:

"I prefer listening to audio books on my mobile phone. I find them quite useful since there are audio stories which are recorded at a slower than usual pace. They really help me not only to improve my listening but also to build my self-confidence as they are easier to comprehend."(Respondent 6).

As for reading, the participants reported to use mostly computers and the Internet. Mobile phone was not preferred much by them because of its screen size:

"I like reading comic strips therefore I often read online English comic strips both for improving my reading skill and having good time on my computer ". (Respondent 3).

"I download English novels and short stories to my computer as pdf file and read them underlying or highlighting the words or phrases that I do not know. I also use the sticky note tool to add my comments or feelings about the novel or story."(Respondent 1).

"It is important for me that what I read should be engaging and new for me. Therefore, I read online English magazines about science and technology on my computer. In that way, not only it contributes to my reading skill but also I keep track of the latest news and trends about science and technology." (Respondent 2).

"There are websites which categorize English news as easy, medium and hard in terms of the language used in writing them and direct you to English news that you want to read. I read English news in such a website to improve my reading. Starting with the easy ones was really motivating and engaging since I could understand what I read. Anymore, I read more difficult ones." (Respondent 7).

"There are websites which provide summaries and analysis of famous English literary works such as sparknotes. Since I get easily bored while reading long novels or stories, I prefer reading summaries and analyses of them in sparknotes on my computer, which really helps me to improve my reading skills." (Respondent 10).

"I like reading about English and American culture. To learn more about them, I search for the target cultures and read articles about them including their lifestyles, eating habits, important cities and famous sightseeings on the Internet, which contribute to my reading skills". (Respondent 5).

When students were asked how they exploited those technologies to improve their speaking skills, it was seen that the Internet provided numerous options for students to practice their speaking:

"*I have foreign friends whom I met on social websites. Although not all of them are from England or U.S., they all know English. I sometimes chat with them through instant messaging or video chatting on Skype, which really contributes to my speaking." (Respondent 1).*

"I watch English speech tutorials on youtube and observe the speakers' mimes and gestures. Then, I try to imitate the speakers' mimes, gestures, accent and tones." (Respondent 2).

"While playing online games, I make foreign friends and we talk to each other in English to finish the game, and then, we keep in touch with each other through video calling on skype." (Respondent 4).

"There are English speaking softwares and applications which enable you to talk with native speakers on mobile phones. I practice my speaking using such applications and softwares on my mobile phone. I really feel comfortable when talking on the phone since I do not see the speaker and he/she is not my superior. Therefore, I speak freely without the fear of making mistakes." (Respondent 5).

"I frequently chat with both my classmates and foreign friends on social networking websites in English, which really helps me to get familiar with the colloquial language, and boost my self-confidence in speaking English since we chat in a friendly atmosphere."(Respondent 8).

One of the respondents stated that she was too introvert to speak with foreigners:

"Although there are many applications and softwares which enable you to talk to native speakers to practice English speaking, I am a bit hesitant about talking to foreigners. Therefore, I prefer to chat with my classmates who are better than me in English on whatsapp from my smartphone to improve my speaking" (Respondent 10).

Lastly, the participants indicated that they mostly exploited computers and the Internet technology to enhance their writing skills:

"There are numerous free forums which you can send your drafts to and get feedback about your writing from experts. I send my drafts to such a forum and rewrite them based on the feedback I got. I find it quite helpful since it is difficult to find somebody who will check your drafts. Luckily, that forum accepts my writings whenever I send them."(Respondent 9)

"I search for the essays written about the topic that I am going to write to have an idea about what to write. Then, I compare my essay with those that have similar topic and genre on the Internet."(Respondent 2).

"We exchange our essays with my classmates through e-mail, and we give feedback to each other." (Respondent 6).

"I search for the use of vocabulary and phrases that I want to use in my essay, and I check my sentences through writing them on google to avoid making mistakes at sentence level". (Respondent 1).

"I prefer sending my essays to free peer editing websites to get feedback on my writings, and I also check and try to provide feedback on essays sent to me by the other members of the website. Even though providing feedback is sometimes challenging, I find it beneficial for developing my own writing skills since it stimulates me to read more" (Respondent 4).

"We write to each other on social networking websites with my classmates and foreign friends in English, which helps me gain flexibility in writing in English." (Respondent 8).

"Writing on computers is quite practical since misspelled words are automatically corrected in word." (Respondent 5).

4.3.3. Using Technological Tools to Improve Grammar, Vocabulary and Pronunciation: The third question asked to the students was how they made use of computers, mobile phones and the Internet technology to enhance their grammar, vocabulary and pronunciation knowledge respectively. When the participants were asked how they studied grammar through the technologies mentioned above, four of them stated that they did not benefit from technology to learn or practice grammar at all as they were used to study grammar from traditional grammar books which included a lot of exercises since high school. The others, however, reported to use those technologies as in the following:

"When I have difficulty in using a grammatical structure, I search on google writing "how to use…." to see uses of a particular structure. Moreover, I practice grammar topics through quizzes, pop up questions which are available online." (Respondent 1).

"I download grammar slides to my desktop to study grammar topics and revise them from time to time." (Respondent 9).

"I search for reading texts on the Internet which include grammar points that I want to practice. I find it helpful since studying on a reading text makes the grammar point more memorable and meaningful for me." (Respondent 4).

"There are forums which aim to teach grammar to the learners of English. I study grammar on such forums and do exercises related to the topic that I study." (Respondent 7).

For learning vocabulary, the participants used both their computers and mobile phones with/without Internet connection:

"I use online dictionaries to look up definitions of words which I come across while reading something in English."(Respondent 3).

"While writing to each other on whatsapp with my classmates, we use the words that we have just learnt so as not to forget them easily" (Respondent 10).

"When I have learnt a new word I search for the uses of it on google to use them correctly while speaking or writing in English." (Respondent 1).

"I downloaded a dictionary into my mobile phone, and I frequently use it in and beyond the classroom" (Respondent 6).

The other two respondents reported to do nothing especially for practicing vocabulary other than looking up words in online dictionary. However, they stated that they learnt a lot of vocabulary while playing online games:

"I like playing online games, and some of them include dialogues and sentences, and you need to choose among them to go on playing. In this way, I see daily use of the words, and memorize them in context" (Respondent 2).

"We sometimes play games with our classmates on facebook. Although I do not intentionally try to learn vocabulary which I came across, I realize that I memorize most of the words which I saw while playing"(Respondent 9).

When participants were asked how they used the technologies mentioned above to improve their pronunciation, they reported to use them as in the following:

"I record pronunciations of the words that I have just learnt on my mobile phone, and listen to them even when I am dealing with another work" (Respondent 2).

"While I am listening to podcasts or watching English movies, I pay attention to pronunciation of the words that I hear, and repeat them" (Respondent 1).

"I refer to an online dictionary or google translate to learn pronunciation of words" (Respondent 6).

"I listen to audio books again and again to get familiar with English pronunciation" (Respondent 9).

"To improve my pronunciation, I listen to English songs with lyrics" (Respondent 3).

CHAPTER FIVE

DISCUSSION

5.1. Introduction

This chapter attempts to present a review of the findings obtained through questionnaires and interview analyses. Firstly, a brief summary of the present study including research questions, methods, and findings will be mentioned. Then, a critique of the research findings will be provided. Relevance of the findings to the previous research will also be discussed.

5.2. Answers to the Research Questions

This study was a descriptive one which aimed to illustrate learning strategies employed by the learners of English as a foreign language through the medium of the following technologies: computers, mobile phones and the Internet. The participants included 75 undergraduate students majoring at Teaching English as a Foreign Language. 42 of the participants were 1st grade students whereas 33 of them were 2nd graders. Upon administering the questionnaires (Computers and the Internet Scale and Mobile phones and the Internet Scale), demographic profiles of the respondents related to their computer, mobile phone and the Internet use were drawn out. Besides, learning strategies used by the students were identified. It was found that learners' self-perceived proficiencies in learning English were quite high since 58,07% of the participants rated their proficiency as "good", and 6,7% of them reported that they were "very good" at English. Moreover, frequency of computer, mobile phone and the Internet use were questioned. Of the participants, 45,3% indicated that they frequently used computers whereas 41,3% of them regularly made use of mobile phones while learning English. Majority of the students (62,7%) exploited the Internet less than 10 hours per week.

The participants were also asked to indicate how they accessed the Internet. More than half of the participants (50,7%) claimed that they had home Internet access, and 20% of them went to Internet cafés for using the net. As for computer and mobile phone ownership, 70,7% of the students reported having computers, and all of them had mobile phones. Of the participants who had mobile phones, 65,3 of them owned cell phones

whereas 34,7 of them possessed smart phones. When the participants were asked how they connected to the Internet on their mobile phones, 63,46% of them claimed to have mobile Internet packages, and 36,54% of them indicated that they connected to the Internet through wi-fi. Analyses of the remaining data obtained through questionnaires and interviews will be discussed in detail under the headings of each research questions one by one:

Research Question 1: What kind of LLSs do students use while learning English through the medium of computers and the Internet technology?

The students' overall response proved that they used a wide range of learning strategies including Cognitive, Memory, Compensation, Meta-cognitive, Affective and Social Strategies by means of computers and the Internet while practicing English. However, it was noteworthy that Affective Strategies were claimed to be the most frequently used strategies by the students. Majority of the participants indicated that they felt relaxed and confident when their computers connected to the Internet were with them since students referred to them when they needed help while dealing with the target language, especially in the classroom. For instance, one of the interviewees reported that in the courses such as writing and speaking where students are required to produce language which sometimes becomes quite challenging, she needed to look up several definitions and uses. Therefore, she generally carried her laptop to the class. She added that even if she did not have to use it, knowing that there was a learning tool which she could rely on whenever she needed helped reduce the stress. Moreover, learners stated that they often watched English movies, videos, and listened to English songs, which contributed to their language skills besides providing enjoyment and relaxation for the learners. These findings confirm that individualized learning via computers helps students lower their 'affective filter' which is considered as one of the key factors that affect language success. Besides, this kind of learning stimulates introvert students to be actively involved in the learning process (Kenning &Kenning, 1983; Krashen, 1982; Warschauer, 2004).

Another interesting finding derived from the research was that Social Strategies were the least popular strategies among the participants. Even though CMC (Computer Mediated Communication) tools including both synchronous and asynchronous ones are frequently used by the young generation in everyday life (Fitzpatrick, 2004; Blake, 2011), they are rarely preferred by the learners while learning English. However, these tools have

a great potential to improve language skills in authentic contexts since several studies proved that using these tools yielded favourable learning outcomes (Blake, 2011; Hubbard, 2009; Zhao, 2006). The participants indicated that they used CMC tools to ask for help from their classmates or foreign friends, and to exchange some course materials. It was noted that the respondents generally contacted with their classmates, but they were hesitant about looking for foreign friends to practice their English. During the interviews, several respondents stated that they did not attempt to become friends with foreign people since they were shy.

Surprisingly, Metacognitive Strategies which were more closely related to autonomous learning than any other learning strategy type were also rarely used by the learners by means of computers and the Internet. Yet, emerging technologies including computers and the Internet have proved to improve learner autonomy (Lai &Gu, 2011). As mentioned above in the literature part, CALL (Computer Assisted Language Learning) precipitated self-directed learning since learners are provided with numerous learning materials among which learners can choose considering their needs and interests (Godwin-Jones, 2011). Despite the fact that students were expected to develop metacognitive skills by using computers and the Internet, it was found that the participants did not necessarily become self-regulated learners. What can be inferred from this finding is that learners did not ask for guidance from their teachers or they did not get enough support and guidance from their teachers to learn by themselves.

As for Cognitive Strategies, learners occasionally referred to them while practicing English. When students were asked how they used computers and the Internet to improve their English knowledge, it was found that the students both intentionally and unintentionally practiced English. During the interviews, several respondents indicated that they learnt many words, expressions and their pronunciations while playing online games. Simply put, they acquired several words, pronunciation and grammar points through being exposed to them (Jarvis, 2012).

The results obtained in surveys and interviews correspond to the findings of the research carried out by Razak (2000) to some extent. In her study, Affective Strategies were recorded as the second most frequently used strategies after Metacognitive Strategies, and Social Strategies were the least used learning strategies by means of computers. On the other hand, findings of the present study contradicts with another study conducted by

Vincent &Hah (1996) which was about language learning strategies employed by learners using a CALL program since Affective Strategies were found to be the least used learning strategies by the participants while dealing with a CALL program. In her study which focused on self-directed learning strategies in a web-based learning context, Chang (2005) concluded that employing language learning strategies related to self-learning promoted academic success and awareness level of the students while learning English. Thus, learners were found to become more active and engaged in their learning process. When compared to the other studies which focused on 'non-computer related' learner strategies (Razak, 2000), it was found that there was not a total consistency between them. In his research on college students learning English as a foreign language, Liang (2009) found out that learners rarely used learning strategies while practicing English. However, Compensation Strategies which were the second most frequently used learning strategies in the present study, and Metacognitive Strategies were used slightly more than any other learning strategies. Another study conducted by Mattarima &Hamdan (2011) revealed that Compensation Strategies were the least preferred strategies by the participants whereas Metacognitive Strategies which were reported to be rarely used by the participants in the present study were the most popular strategies among the students.

Research Question 2: What kind of LLSs do students use while learning English through the medium of mobile phone and the Internet technology?

The results obtained through mobile phones and the Internet scale and interviews indicated that the participants rarely exploited learning strategies by means of mobile phones and the Internet. The frequency rate of strategy use for each strategy type through mobile phones and the Internet was found to be same with the frequency order of strategies used through computers and the Internet. Similarly, Affective Strategies were the most preferred learning strategies through mobile phones and the Internet while learning English. Majority of the participants claimed that they listened to English songs on their mobile phones and felt relieved from stress and anxiety. The role of English songs in language teaching cannot be underestimated since it has been confirmed that songs facilitate learning the target language through providing a stress free atmosphere for learners (Larsen-Freeman, 1985). Moreover, it was found that the participants felt comfortable and confident especially in the classroom when their mobile phones with them

since mobile phones were indispensable in their learning process especially for their dictionary function.

As in the study of computers and the Internet, Social Strategies were recorded as the least used learning strategies through mobile phones and the Internet by the participants. The results suggested that learners avoided from looking for and contacting with foreigners partly because of lack of courage and partly because they could not afford it. Repeatedly, Metacognitive Strategies were seldom exploited by the participants through mobile phones and the Internet, which contradicted with the claim that mobile technology along with the increasing use of social networking websites has facilitated self-regulated language learning (Godwin-Jones, 2011). Even though majority of the participants accessed the Internet on their mobile phones, they seldom benefited from it while learning English. On the other hand, several students suggested that they did not have smart phones therefore they could not use most of the learning strategies through mobile phones and the Internet indicated in the scale. Yet, smartphones have proved to be excellent tools to improve autonomous learning since they provide freedom for learners to choose among various applications to learn English (Godwin-Jones, 2011).

With regard to Cognitive Strategies, it was revealed that learners barely referred to mobile phones and the Internet to practice English. Among these strategies, using online dictionary, and practicing listening were the most frequently preferred ones. However, they did not use mobile phones to employ a wide range of Cognitive Strategies since they were not appropriate for many learning activities because of their physical components including screen size, keyboard etc. (Chinnery, 2006). During the interviews, several students claimed that they opted for mobile phones to listen English songs and audio books outside of the classroom especially going to and returning from the school thanks to their portability. Nevertheless, it was recorded that the participants did not use their mobile phones to improve their reading and writing skills because of the screen size.

Unfortunately, few studies have been conducted related with learning strategies using mobile technologies including mobile phones and the Internet. The findings of the research carried out by Beres (2011) contradict with those of the present study. When students were asked which strategies they employed while practicing the target language by means of mobile technologies, majority of the participants indicated that they frequently used Cognitive Strategies which were rarely exploited by the participants in the present study. It

was also noteworthy that there was a considerable gap between students' beliefs and practices since most of the respondents confirmed that mobile technologies had great potential to improve language learning through providing a vast amount of learning materials for learners. However, it was found that they rarely referred to mobile technologies including mobile phones, mp3 players and the Internet while learning English in and beyond the classroom.

Research Question 3: Is there a gender related difference in the use of LLSs by means of computers and mobile phones?

In the present research, whether there was gender linked difference in strategy use through computers, mobile phones and the Internet was also questioned. No significant difference was found between males and females in exploiting learning strategies using computers, mobile phones and the Internet. On the other hand, the results from independent samples t-tests suggested that male students somehow fell behind their female partners in employing learning strategies by means of computers and the Internet. Moreover, female students performed better than male students in terms of using learning strategies via mobile phones and the Internet. These findings contradicted with those which indicated that girls were hesitant about using technological tools and could not manage them effectively since in many western countries boys proved to be more inclined to using technological devices (Liu, 2009). During the interviews, however, it was reported that male participants were more enthusiastic about using technological devices including laptop computers, and mobile phones while practicing English. Besides, they used these devices more frequently than their female counterparts in everyday life.

A great number of studies were conducted to investigate the difference between use of learner strategies and gender. Findings of the study carried out by Green &Oxford (1995) correspond to the findings of the present study since they found that female students tended to use learning strategies including Memory, Metacognitive, Affective, and Social Strategies more frequently than male students. On the other hand, several studies indicated that gender did not have a considerable effect on strategy use while learning English (Ehrman &Oxford, 1990; Nisbet *et al.*, 2005). Moreover, several studies which explored the relationship between attitude towards using computers in practicing English and gender revealed that gender was not an important factor in computer and the Internet usage while learning the target language (Akbulut, 2008; Teo, 2008; Ayres, 2002) whereas studies

which were directly related to the use of computers and the Internet proved that males referred to the computers more often than females especially in everyday life (Fetler,1985; Adam &Bruce,1993; Murray, 1993; Durndell &Haag, 2002). As mentioned before, studies on learner strategies via emerging technologies stated above are quite limited, and furthermore only a few studies considered the gender factor while investigating learner strategies by means of technological devices. As in the present study, Razak (2000) also found that there was not any significant difference between male and female students in terms of employing learning strategies in a computer-based classroom.

Research Question 4: Is there a difference between LLS use via computers and via mobile phones?

The findings of the study suggested that learners made use of computers and the Internet more frequently than mobile phones and the Internet while learning English. One of the reasons for preferring computers to practice English might be that most of the students had their own computers while only nearly one-third of the students reported to have smartphones. It was also noteworthy that, when students were asked how they used their mobile phones and the Internet while learning English, several students claimed that they did not have smartphones which were multi-functioned therefore they could not use learning strategies mentioned in the questionnaire given by the researcher. As mentioned in the second chapter, opportunities that students have and ownership of technological tools determine learner choices to a certain extent (Kukulska-Hulme, 2009). Comparing technological devices commonly used in language learning, Yamaguchi (2005:57 cited in Chinnery, 2006) asserts that "a computer is better than a mobile phone for handling various types of information such as visual, sound, and textual information, but mobile phone is superior to a computer in portability." Furthermore, Baron (2013) adds that functions of a device are more important than its portability. On the other hand effectiveness of mobile devices which incorporate the latest technology in language learning cannot be denied, and it is predicted that MALL (Mobile Assisted Language learning) will sooner replace CALL with the increasing ownership and use of mobile devices (Jarvis, 2012). Mobile learning, a kind of e-learning is becoming widespread around the world since learners can do almost everything they do on computers on new generation smartphones. They are even becoming more functional than computers, thanks to their attributes which are improved day by day including Internet access, voice- messaging, SMS text-messaging, cameras, video-

recording etc. (Chinnery, 2006; Miangah &Nezarat, 2012). Besides, smartphones are more personal which helps learners to become more self-directed learners taking responsibility for their own learning beyond the classroom (Godwin-Jones, 2011).

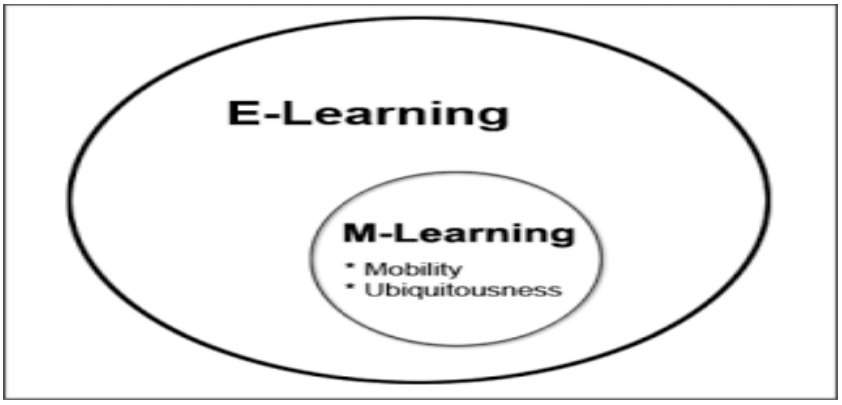

Figure 12. Mobile Learning (taken from http://elearning-certificate.blogspot.com.tr /2012/12/ snack-learning-and-other-mobile.html).

The difference between the use of learning strategies by means of computers and the Internet and mobile phones and the Internet was found to be significant. Simply put, majority of the participants used computers and the Internet far more frequently than mobile phones and the Internet while learning English. Even though learners referred to computers and the Internet more than mobile phones and the Internet since majority of the students claimed that their mobile phones were not multi-functioned, learners who had smartphones stated that they fully benefited from their mobile phones while learning English adding that smartphones have considerably facilitated their lives.

Research Question 5: Is there a difference between students owning smartphones and students having cell phones in their use of LLSs via computers and via mobile phones?

In order to find out whether types of mobile phones possessed by the learners have any effect on strategy use via technological means including computers, mobile phones and the Internet, Independent Samples T-tests were applied. No meaningful difference was found between types of mobile phones that students had and the use of technologies mentioned above. However, it was noteworthy that learners who had smartphones were more enthusiastic about employing learning strategies by means of computers and the Internet and by means of mobile phones and the Internet than learners with cell phones.

Simply put, smartphone ownership stimulated the use of learning strategies by means of aforementioned technologies.

It is acknowledged that smartphones have great potential to improve learning self-directed learning providing learners vast amount of choices among which learners can chose (Godwin-Jones, 2011). As a learning tool, they enable learners to direct their learning process since learners can study via their mobile phones on their own pace relying on their preferences in terms of time, place, content etc. (Miangah &Nezarat, 2012). As confirmed in the present study, students having smartphones tend to study on their own beyond the classroom more frequently than learners who do not have. Even though mobile learning has been gradually gaining ground in the relevant field along with the development of mobile devices including smartphones, it is inevitable that many students fall behind it since they could not afford to buy such devices (Godwin-Jones, 2011). During the data collection process both when administering questionnaires and interviewing, several students indicated that they did not have smartphones since they were too expensive to own, and they added that their mobile phones were capable of conducting only a limited number of activity. In that aspect the improvement and integration of mobile devices into learning changes from region to region. In some countries adaptation of mobile devices into learning is faster thanks to the widespread ownership of such devices whereas in some others, it is slower to catch up with the latest trends in education due to the fact that not many people are able to afford to buy such devices (Godwin-Jones, 2011). On the other hand, it is promising that the number of people owning smartphones is increasing day by day thanks to their functionality and practicality. It is reported that in the first half of the 2013 more people preferred smartphones to feature phones (multifunction phones with a moderate price) all over the world (http://www.idc.com/getdoc.jsp?containerId=prUS24645514, 12.09.2013).

Another issue related to smartphones is that learners need guidance on how to use them effectively when learning English since several students indicated that they did not know how to make use of their smartphones to improve their specific language skills. It was also disappointing that although learners who had smartphones frequently referred to them in and beyond the classroom, they did not fully benefited from their smartphones since their use of these tools were limited to certain kinds of activities such as looking up dictionary, listening to English songs or watching videos, reading English magazines etc.

Unfortunately, most of them either did not know much about the mobile applications which are designed for practicing English or could not afford to use these applications since most of them were not free.

CHAPTER SIX

CONCLUSIONS AND SUGGESTIONS

6.1. Introduction

The starting point of the present study was to explore how students study and practice in and beyond the classroom with their own efforts in the present era when technology has penetrated into people's lives. During the last few years, technological improvements have brought new educational trends which changed teaching and learning habits of the new generation. In that respect, the following issues were investigated in the present study: learner strategies exploited through emerging technologies including computers, mobile phones and the Internet; effects of gender on strategy use via those technologies; the difference between strategy use via computers and the Internet and via mobile phones and the Internet technology; and the difference between types of mobile phones owned by the students and the use of learning strategies through the medium of computers, mobile phones and the Internet.

6.2. Conclusion and Recommendations

The overall findings of the study obtained through questionnaires and semi-structured interviews suggested that learners made use of a wide range of learning strategies by means of the technologies mentioned above. The difference between male and female students in the use of learning strategies was found to be insignificant. However, females employed aforementioned technologies more frequently than male students while practicing English. Furthermore, it was revealed that there was a significant difference between use of learning strategies via computers and the Internet and via mobile phones and the Internet. In other words, learners benefited from computers and the Internet related learning strategies more frequently than learning strategies through using mobile phones and the Internet. Besides, the difference between types of mobile phones owned by the students and the use of learning strategies through the medium of computers and the Internet and through the mediums of mobile phones and the Internet was questioned. Even though there was not a significant difference between types of mobile phones that students possessed and strategy use via computers and the Internet and via mobile phones and the

Internet, it was found that learners owning smartphones were more enthusiastic about employing learner strategies by means of computers and the Internet and by means of mobile phones and the Internet. During the interviews, students were asked which technologies they made use of when studying English. Computers connected to the Internet and mobile phones with the Internet connection were reported to be the most frequently used technological means by the learners, respectively. The Internet was an indispensable part of the language learning process since most of the students referred to them both on their computers and mobile phones, which facilitated self-directed language learning (Godwin-Jones, 2011).

According to Naismith &Lonsdale &Vavoula &Sharples (2004:36) "The challenge for the educators and technology developers of the future will be to find a way to ensure that this new learning is highly situated, personal, collaborative and long term; in other words, truly learner-centred learning. Educators will need to adapt from a role as transmitters of knowledge to guiders of learning resources." In that aspect, it is necessary to reconsider language learning strategies which are directly related with self-regulated learning (Bekleyen &Yılmaz, 2012) since learners do not solely refer to books and pencils anymore; they prefer several other technological devices to facilitate their learning. Furthermore, Godwin-Jones (2011) states that learners should improve and stick to learning strategies which will be replaced or promoted by them relying on their needs and interests to become self-directed learners making use of emerging technologies. According to Prensky (2001), new generation learners are quite different from the students of traditional educational system. He calls contemporary students as "digital natives" who are competent users of common technologies including computers and the Internet since they grew up with technology whereas defining his generation as "digital immigrants" who has become acquainted with new technologies and developments afterwards. Making such a distinction between his and new generations, Prensky (2001) highlights that instructors who are characterized as "digital immigrants" are far from meeting the expectations of contemporary students who comes with different learning habits and needs to the class.

Therefore, Kukulska-Hulme (2009:161 cited in Jarvis, 2012) claims that "teachers and learners must try to work together to understand how portable, wireless technologies may best be used for learning." As Godwin-Jones suggests autonomous learning does not

mean learning or studying alone; on the contrary, learners need guidance and support to become autonomous learners.

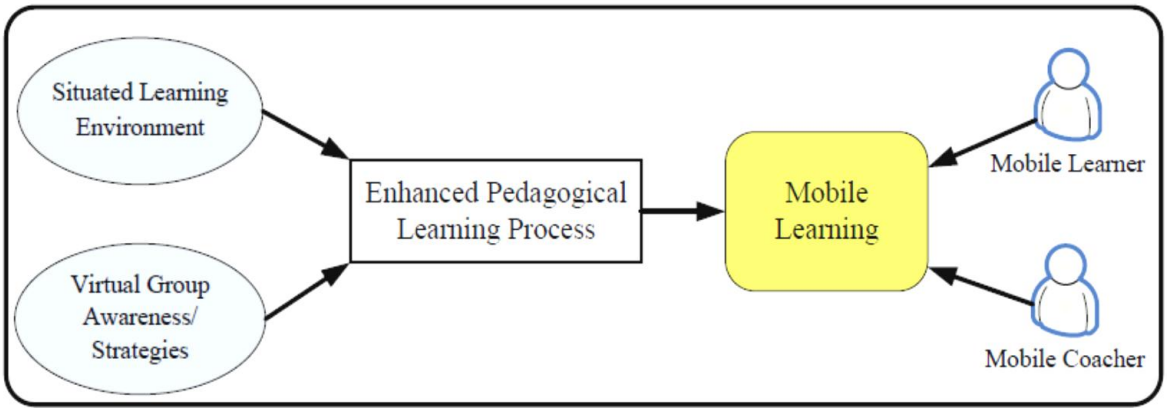

Figure 13. Essential Attributes of Mobile Learning (taken from Jeng et al., 2010:6).

6.3. Pedagogical Implications

In the present study, it was found that learners sometimes made use of technological means including computers, mobile phones and the Internet although they reported that they used those technologies quite often in everyday life. It was disappointing that Social Strategies were the least frequently preferred ones, which indicated that learners did not benefit from CMC tools to practice English even though almost all of the respondents reported to use social networking websites in daily life during the interviews. Yet, these tools proved to facilitate language learning through providing real contexts for target language use. Learners need to be encouraged and stimulated to use CMC tools to improve their English by their instructors and peers.

It was also upsetting that Metacognitive Strategies were rarely employed by the participants by means of the aforementioned technologies. However, these strategies were crucial for language learning process since they were 'learning to learn' strategies which included regulating learning process and facilitating self-directed learning. Yet, learners did not refer to such strategies through technological means which they used frequently for other reasons. The role of technological tools in autonomous learning cannot be underestimated (Jarvis, 2012) since they enable learners to practice English beyond the classroom. Therefore, learners need guidance on how to make use of such tools to regulate

their learning. At this juncture, teachers have strategic missions to conduct: guiding and encouraging students through giving assignments which require using technological tools beyond the classroom (Godwin-Jones, 2011). Moreover, teachers should give responsibilities to the students so that they will be actively involved in their learning process, which means developing and using learning strategies more often than usual.

Another point which needs considering is that learners felt relaxed when their computers especially tablet PCs or mobile phones especially smartphones were with them during the courses. On the other hand, not all the students have such tools to bring to the class, and unfortunately not all the classrooms have technological facilities from which students may benefit. Moreover, Internet access may also be expensive for the students. Therefore, it is suggested that classes should be equipped with facilities like wi-fi to provide Internet access that students can use freely during the courses, which is believed to facilitate learning through providing a stress-free environment.

Lastly, it is highly recommended that prospective teachers should receive training on 'how to learn' besides 'how to teach'. In the present study, it was seen that participants who were teacher candidates did not know much about learning strategies related to autonomous learning. Besides, they were not so keen on looking for ways to improve their English. Therefore, teacher candidates should be given training on 'how to learn strategies' so that they can gain competence in learning to learn strategies, which is quite necessary not only for them but also for the benefit of their prospective students. Thus, they can provide guidance for their students on learning strategies both in and beyond the classroom.

6.4. Suggestions for Future Research

This study was conducted at Faculty of Education in Dicle University with a total of 75 undergraduate students majoring in English language teaching. Therefore, it is not reasonable to generalize the findings obtained through the mixed method including questionnaires and interviews to the students studying at different universities. Moreover, it is difficult to observe all of the learning strategies performed by students since most of the learner strategies refer to learning activities beyond the classroom. Thus, more studies related to types of learner strategies adapted by learners through benefiting from technological means when studying English should be carried out in order to have a better

understanding of how exactly students benefit from technological devices when practicing English. This study focused on the use of computers, mobile phones, and the Internet. Yet, more comprehensive studies could also be conducted to concentrate on the use of a specific tool such as Tablet PCs, smartphones, mp3 players etc in language learning process by the students.

The present study focused on learner strategies which were employed by means of technological devices. However, more extensive studies can be carried out to get more sound results through comparing learner strategies conducted both in technology-enhanced learning context and traditional learning context. Moreover, the relationship between strategies employed by the learners by means technologies questioned in the present research and learner success which can be obtained through classroom observations or their academic scores could also be queried.

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APPENDICES

APPENDIX 1

ENGLISH VERSION OF QUESTIONNAIRES

Computers and the Internet Scale

Dear participants,

This questionnaire is designed to find out learning strategies used by students through benefiting from computer technology while learning English. There is no **RIGHT** or **WRONG** answer in this questionnaire. Therefore, sincerity and honesty of your answers is very important.

Thank you very much for completing the questionnaire.

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Division of English Language Teaching

Supervisor: Assoc. Prof. Nilüfer BEKLEYEN
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Department of F.L.E.
Division of English Language Teaching

Please answer the following questions:

1. Name :
2. Gender : ☐ Female ☐ Male
3. Age :
4. Grade :
5. How do you rate your proficiency in English?

   a-poor b-average c-good d-very good
6. Do you have a computer?

   Yes ☐ No ☐
7. Where do you usually provide access to the Internet?

   a- at home b- at the Internet café c-other
8. How often do you use computers while learning English?

   a-never b-rarely c-sometimes d-often e-always
9. How many hours do you generally use the Internet per week?
   a- 1-9 hours b- 10-19 hours c- more than 20 hours

Please tick the appropriate box.

1=Never 2=Seldom 3=Sometimes 4=Often 5=Always

		1	2	3	4	5
1	I watch English movies/short videos on computers.					
2	I use online English dictionaries on computers.					
3	I search the lyrics of English songs on the Internet via computers.					
4	I listen and repeat sound files in English using computers.					
5	I study grammar/do exercises on grammar websites via computers.					
6	I listen to English podcasts on computers.					
7	I listen to English audio books on computers.					
8	I read short stories, novels, comic strips etc. on computers.					
9	I read English magazines and newspapers on the Internet via computers.					
10	I chat with foreigners on the Internet (skype, facebook video calling etc.) via computers.					
11	Before writing, I search for the topic that I will write on the Internet via computers.					
12	I search for the correct use of vocabulary and sentence structures that I want to use while writing in English on the Internet via computers.					
13	I communicate with foreigners through writing on social communication networks (facebook, twitter, WhatsApp etc.) via computers.					
14	I make use of the translation facilities on the Internet (e.g. google translation,.) via computers.					
15	I conduct online research via computers while doing my homework.					
16	I jot down the words that I learned with their meanings on computers to repeat them later.					
17	On a computer with an Internet connection, I examine how the English words are used to keep them in mind easily.					
18	I run over the grammar rules on the Internet using computers.					
19	When I run into the structures or words that I don't know, I search for help on the Internet using computers.					
20	When I run into the structures or words that I don't know, I watch the relevant videos on the Internet using computers.					
21	When I have difficulty in using or understanding a grammar topic, I check the use of it on the Internet via computers.					
22	I search for how other people learn English on the Internet using computers.					
23	I make a "to-do list" for my upcoming studies on a computer.					

24	While speaking English, I record my voice on a computer, and then I listen to it.					
25	Before writing an essay, I read texts with similar topics or genres on the Internet by using a computer.					
26	On a computer, I compare my essays with other essays having the same or similar genre or topic.					
27	Using computers, I search for the ways to improve my language skills on the Internet.					
28	When I prepare for a presentation, I watch videos to examine the speakers' mimes, gestures and the way they talk using a computer.					
29	I examine the topic that I will learn to have an idea about it before the lesson using computers.					
30	I feel more confident when my computer is with me while studying English.					
31	Listening to English songs on computers makes me feel relaxed.					
32	Watching English videos or movies on computers makes me feel relaxed.					
33	I feel relaxed if my computer is with me while studying English.					
34	I search for foreign friends on social networking websites to speak English by using computers.					
35	I send my essays to peer editing websites on the Internet by using computers.					
36	We do our group works together with members of the group on the Internet by using computers.					
37	My classmates and I send our English essays to each other through the internet using computers and give feedback to each other.					
38	I send my writing homeworks to my foreign friends, and ask them to check my writings on the Internet by using computers.					
39	When I have problems with my homework, I ask for help from my classmates or foreign friends on the Internet by using computers.					
40	I conduct research on the Internet to get familiar with English and American culture by using computers.					
41	My classmates and I exchange some course materials on the Internet by using computers.					

Mobile Phones and the Internet Scale

Dear participants,

This questionnaire is designed to find out learning strategies used by students through benefiting from mobile phone technology while learning English. There is no **RIGHT** or **WRONG** answer in this questionnaire. Therefore, sincerity and honesty of your answers is very important.

Thank you very much for completing the questionnaire.

Res. Assist. Fatma HAYTA
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Supervisor: Assoc. Prof. Nilüfer BEKLEYEN
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Please answer the following questions:

1. Name :
2. Gender : ☐ Female ☐ Male
3. Age :
4. Grade :
5. Your mobile phone is:

   – a Smartphone Yes ☐ No ☐

   – a cell phone Yes ☐ No ☐

6. Do you connect to the Internet on your mobile phone?

   Yes ☐ No ☐

7. If your answer is yes,

   --through Wifi Yes ☐ No ☐

   --through Internet Package Yes ☐ No ☐

Please tick the appropriate box.

1=Never 2=Seldom 3=Sometimes 4=Often 5=Always

		1	2	3	4	5
1	I watch English movies/short videos on my mobile phone.					
2	I use online English dictionaries on my mobile phone.					
3	I search the lyrics of English songs on the Internet through my mobile phone.					
4	I listen and repeat sound files in English on my mobile phone.					
5	I study grammar/do exercises on grammar websites through my mobile phone.					
6	I listen to English podcasts on my mobile phone.					
7	I listen to English audio books on my mobile phone.					
8	I read short stories, novels, comic strips etc. on my mobile phone.					
9	I read English magazines and newspapers on the Internet through my mobile phone.					
10	I chat with foreigners on the Internet (skype, facebook video calling etc.) through my mobile phone.					
11	Before writing, I search for the topic that I will write on the Internet through my mobile phone.					
12	I search for the correct use of vocabulary and sentence structures that I want to use while writing in English on the Internet through my mobile phone.					
13	I communicate with foreigners through writing on social communication networks (facebook, twitter, WhatsApp etc.) through my mobile phone.					
14	I make use of the translation facilities on the Internet (e.g. google translation,.) through my mobile phone.					
15	I conduct online research through my mobile phone while doing my homework.					
16	I jot down the words that I learned with their meanings on my mobile phone to repeat them later.					
17	On my mobile phone with Internet connection, I examine how the English words are used to keep them in mind easily.					
18	I run over the grammar rules on the Internet through my mobile phone.					
19	When I run into the structures or words that I don't know, I search for help on the Internet through my mobile phone.					
20	When I run into the structures or words that I don't know, I watch the relevant videos on the Internet my mobile phone.					
21	When I have difficulty in using or understanding a grammar topic, I check the use of it on the Internet through my mobile phone.					
22	I search for how other people learn English on the Internet through my mobile phone.					
23	I make a "to-do list" for my upcoming studies on my mobile phone.					

24	While speaking English, I record my voice on my mobile phone, and then I listen to it.					
25	Before writing an essay, I read texts with similar topics or genres on the Internet through my mobile phone.					
26	I compare my essays with other essays having the same or similar genre or topic on the Internet through my mobile phone.					
27	I search for the ways to improve my different language skills on the Internet through my mobile phone.					
28	When I prepare for a presentation, I watch videos to examine the speakers' mimes, gestures and the way they talk on the Internet through my mobile phone.					
29	I examine the topic that I will learn to have an idea about it before the lesson on the Internet through my mobile phone.					
30	I feel more confident when my mobile phone is with me while studying English.					
31	Listening to English songs on my mobile phone makes me feel relaxed.					
32	Watching English videos or movies on my mobile phone makes me feel relaxed.					
33	I feel relaxed if my mobile phone is with me while studying English.					
34	I search for foreign friends on social networking websites to speak English via my mobile phone.					
35	I send my essays to peer editing websites on the Internet via my mobile phone.					
36	We do our group works together with members of the group on the Internet via our mobile phones.					
37	My classmates and I send our English essays to each other through the internet using our mobile phones and give feedback to each other.					
38	I send my writing homeworks to my foreign friends, and ask them to check my writings on the Internet via my mobile phone.					
39	When I have problems with my homework, I ask for help from my classmates or foreign friends on the Internet through my mobile phone.					
40	I conduct research on the Internet to get familiar with English and American culture through my mobile phone.					
41	My classmates and I exchange some course materials on the Internet through our mobile phones.					

APPENDIX 2

TURKISH VERSION OF QUESTIONNAIRES

Bilgisayar ve İnternet Anketi

Değerli Öğrenciler,

Bu anket, üniversite öğrencilerinin İngilizce öğrenirken bilgisayar teknolojisinden yararlanarak kullandıkları öğrenme stratejilerini saptamak amacıyla hazırlanmıştır. Bu ankette DOĞRU ya da YANLIŞ cevap yoktur. Bu nedenle ankete içten ve dürüst cevap vermeniz çok önemlidir.

Zaman ayırdığınız için teşekkür ederiz.

Araş. Gör. Fatma HAYTA
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İngiliz Dili Eğitimi Anabilim Dalı

Aşağıdaki soruları cevaplayınız:

1. Adınız:
2. Cinsiyetiniz : ☐ Bayan ☐ Erkek
3. Yaşınız : _____
4. Sınıfınız:
5. İngilizce seviyenizi nasıl nasıl değerlendirirsiniz?

   a-zayıf b-orta c-iyi d-çok iyi
6. Bilgisayar yeterlik düzeyinizi nasıl değerlendirirsiniz?

   a-zayıf b-orta c-iyi d-çok iyi
7. Günlük hayatta bilgisayarı ne sıklıkla kullanırsınız?

   A)Hiçbir zaman B)Nadiren C)Bazen D)Sık sık E)Her zaman
8. İngilizce öğrenirken bilgisayarı ne sıklıkla kullanırsınız?

   A)Hiçbir zaman B)Nadiren C)Bazen D)Sık sık E)Her zaman

Aşağıdaki ankette yer alan her bir madde için görüşlerinizi size uygun derecelendirmeyi işaretleyerek belirtiniz:

1=Hiçbir zaman 2=Nadiren 3=Bazen 4=Sık sık 5=Her zaman

		1	2	3	4	5
1	Bilgisayardan İngilizce film ve/veya kısa video izlerim.					
2	Bilgisayardan online (görsel, sesli vb.) sözlük kullanırım.					
3	Bilgisayar yardımıyla İnternetten İngilizce şarkıların sözlerini bulurum.					
4	Bilgisayardan ses dosyalarını (şarkı, dialog, dinleme metinleri vb.) dinleyip tekrarlarım.					
5	Bilgisayardan dilbilgisi konu anlatımı sitelerine girip dilbilgisi çalışırım ve/veya dilbilgisi alıştırmaları yaparım.					
6	Bilgisayardan İngilizce podcastler dinlerim.					
7	Bilgisayardan İngilizce seslendirilmiş kitapları dinlerim.					
8	Bilgisayardan kısa hikâye, roman, çizgi roman vb. okurum.					
9	Bilgisayardan güncel dergi veya gazete yazıları okurum.					
10	Bilgisayardan internet ortamında yabancılarla sözlü olarak sohbet ederim (skype, facebook video calling vb).					
11	Yazı yazmadan önce yazacağım konu ile ilgili bilgisayardan internette araştırma yaparım.					
12	İngilizce yazarken kullanmak istediğim kelime veya cümle yapılarının doğru kullanımını bilgisayar yardımıyla internetten araştırırım.					
13	Yazma becerimi geliştirmek için bilgisayardan sosyal iletişim ağlarında İngilizce yazışırım (facebook, twitter, WhatsApp vb.).					
14	Bilgisayar yardımıyla internetten yararlanarak çeviri (google çeviri, sesli sözlük vb.) yaparım.					
15	Ödevlerimi yaparken bilgisayar kullanarak internette araştırma yaparım.					
16	Yeni öğrendiğim kelimeleri anlamlarıyla birlikte bilgisayara not alırım.					
17	Öğrendiğim kelimeleri aklımda tutmak için bilgisayar yardımıyla internetten kullanıldığı yerlere bakarım.					
18	Gramer konularını tekrar etmek için bilgisayar yardımıyla internetten gramer egzersizleri yaparım.					
19	Anlamını bilmediğim kelime ya da yapılarla karşılaştığımda bilgisayar yardımıyla internetten ilgili görselleri araştırırım.					
20	Anlamını bilmediğim kelime ya da yapılarla karşılaştığımda bilgisayar yardımıyla internetten ilgili videoları izlerim.					
21	Herhangi bir dilbilgisi yapısını kullanmakta ya da anlamakta zorlandığımda bilgisayar yardımıyla internetten nasıl kullanıldığına					

	bakarım.					
22	Bilgisayar yardımıyla internetten başkalarının İngilizceyi nasıl öğrendiğini araştırırım.					
23	Yapacağım çalışmalar için bilgisayarımda "yapılacaklar listesi" oluştururum (ödev yapma, araştırma, ders çalışma, ders tekrarı vs.).					
24	İngilizce konuşurken bilgisayara sesimi kaydeder sonra onu dinlerim.					
25	Yazı yazmadan önce yazacağım konu veya yazı türü ile alakalı fikir edinmek için bilgisayar yardımıyla internetten daha önce aynı konu veya türde yazılmış olan yazıları incelerim.					
26	Yazdığım İngilizce yazıları bilgisayar yardımıyla internetten aynı ya da benzer tür veya konuda yazılmış diğer yazılarla karşılaştırırım.					
27	Farklı dil becerilerimi nasıl geliştirebileceğim konusunda bilgisayar yardımıyla internette araştırma yaparım.					
28	Sunum yapmam gerektiğinde bilgisayardan internette ders anlatım ya da sunum videoları izleyerek anlatan kişilerin konuyu anlatım tarzlarını, jest ve mimiklerini incelerim.					
29	Yeni öğreneceğim konu hakkında fikir edinmek amacıyla bilgisayar yardımıyla internetten ön araştırma yaparım.					
30	İngilizce çalışırken bilgisayarımın yanında olması kendime güvenimi artırır.					
31	Bilgisayardan İngilizce müzik dinlemek beni rahatlatır.					
32	Bilgisayardan İngilizce videolar veya filmler izlemek beni rahatlatır.					
33	İngilizce çalışırken bilgisayarım yanımda olursa kendimi daha rahat hissederim.					
34	Bilgisayardan sosyal sitelere girip İngilizce konuşabileceğim yabancı arkadaşlar ararım.					
35	Yazdığım kompozisyonları bilgisayardan internet ortamında akran değerlendirmesi (peer editing) yapan sitelere gönderirim.					
36	Grup çalışması ödevlerimizi bilgisayardan internet ortamında grup arkadaşlarımla beraber yaparız.					
37	Yazılı ödevlerimiz olduğunda ödevlerimizi bilgisayardan internet ortamında arkadaşlarımla birbirimize göndeririz ve akran değerlendirmesi (peer correction) yaparız.					
38	Yazılı ödevlerimi kontrol etmeleri için bilgisayardan anadili İngilizce olan yabancı arkadaşlarıma gönderirim.					
39	Ödevlerimle ilgili takıldığım yerler olduğunda bilgisayar yardımıyla sınıf arkadaşlarımdan veya yabancı arkadaşlarımdan yardım isterim.					
40	İngiliz ve Amerikan kültürünü daha yakından tanımak için bilgisayar yardımıyla internette araştırma yaparım.					
41	Bilgisayardan internet ortamında arkadaşlarımızla kaynak (ders kitapları, ders notları vb.) alışverişinde bulunuruz.					

Cep Telefonu ve İnternet Anketi

Değerli Öğrenciler,

Bu anket, üniversite öğrencilerinin İngilizce öğrenirken cep telefonundan yararlanarak kullandıkları öğrenme stratejilerini saptamak amacıyla hazırlanmıştır. Bu ankette DOĞRU ya da YANLIŞ cevap yoktur. Bu nedenle ankete içten ve dürüst cevap vermeniz çok önemlidir.

Zaman ayırdığınız için teşekkür ederiz.

Araş. Gör. Fatma HAYTA
Dicle Üniversitesi Z.G. Eğitim Fakültesi
Yabancı Diller Eğitimi Bölümü
İngiliz Dili Eğitimi Anabilim Dalı

Tez Danışmanı: Doç. Dr. Nilüfer BEKLEYEN
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İngiliz Dili Eğitimi Anabilim Dalı

Aşağıdaki soruları cevaplayınız:

1. Cinsiyetiniz : ☐ Bayan ☐ Erkek
2. Yaşınız : _____
3. Sınıfınız:
4. İngilizce seviyenizi nasıl nasıl değerlendirirsiniz?

   a-zayıf b-orta c-iyi d-çok iyi
5. Günlük hayatta cep telefonunuzu ne sıklıkla kullanırsınız?

   A)Hiçbir zaman B)Nadiren C)Bazen D)Sık sık E)Her zaman
6. İngilizce öğrenirken cep telefonunuzu ne sıklıkla kullanırsınız?

   A)Hiçbir zaman B)Nadiren C)Bazen D)Sık sık E)Her zaman

Aşağıdaki ankette yer alan her bir madde için görüşlerinizi size uygun derecelendirmeyi işaretleyerek belirtiniz:

1=Hiçbir zaman 2=Nadiren 3=Bazen 4=Sık sık 5=Her zaman

		1	2	3	4	5
1	Cep telefonundan İngilizce film ve/veya kısa video izlerim.					
2	Cep telefonundan online (görsel, sesli vb.) sözlük kullanırım.					
3	Cep telefonu yardımıyla İnternetten İngilizce şarkıların sözlerini bulurum.					
4	Cep telefonundan ses dosyalarını (şarkı, dialog, dinleme metinleri vb.) dinleyip tekrarlarım.					
5	Cep telefonundan dilbilgisi konu anlatımı sitelerine girip dilbilgisi çalışırım ve/veya dilbilgisi alıştırmaları yaparım.					
6	Cep telefonundan İngilizce podcastler dinlerim.					
7	Cep telefonundan İngilizce seslendirilmiş kitapları dinlerim.					
8	Cep telefonundan kısa hikâye, roman, çizgi roman vb. okurum.					
9	Cep telefonundan güncel dergi veya gazete yazıları okurum.					
10	Cep telefonundan internet ortamında yabancılarla sözlü olarak sohbet ederim (skype, facebook video calling vb).					
11	Yazı yazmadan önce yazacağım konu ile ilgili cep telefonundan internette araştırma yaparım.					
12	İngilizce yazarken kullanmak istediğim kelime veya cümle yapılarının doğru kullanımını cep telefonu yardımıyla internetten araştırırım.					
13	Yazma becerimi geliştirmek için cep telefonundan sosyal iletişim ağlarında İngilizce yazışırım (facebook, twitter, WhatsApp vb.).					
14	Cep telefonu yardımıyla internetten yararlanarak çeviri (google çeviri, sesli sözlük vb.) yaparım.					
15	Ödevlerimi yaparken cep telefonu kullanarak internette araştırma yaparım.					
16	Yeni öğrendiğim kelimeleri anlamlarıyla birlikte cep telefonuna not alırım.					
17	Öğrendiğim kelimeleri aklımda tutmak için cep telefonu yardımıyla internetten kullanıldığı yerlere bakarım.					
18	Gramer konularını tekrar etmek için cep telefonu yardımıyla internetten gramer egzersizleri yaparım.					
19	Anlamını bilmediğim kelime ya da yapılarla karşılaştığımda cep telefonu yardımıyla internetten ilgili görselleri araştırırım.					
20	Anlamını bilmediğim kelime ya da yapılarla karşılaştığımda cep telefonu yardımıyla internetten ilgili videoları izlerim.					
21	Herhangi bir dilbilgisi yapısını kullanmakta ya da anlamakta					

	zorlandığımda cep telefonu yardımıyla internetten nasıl kullanıldığına bakarım.					
22	Cep telefonu yardımıyla internetten başkalarının İngilizceyi nasıl öğrendiğini araştırırım.					
23	Yapacağım çalışmalar için cep telefonumda "yapılacaklar listesi" oluştururum (ödev yapma, araştırma, ders çalışma, ders tekrarı vs.).					
24	İngilizce konuşurken cep telefonuna sesimi kaydeder sonra onu dinlerim.					
25	Yazı yazmadan önce yazacağım konu veya yazı türü ile alakalı fikir edinmek için cep telefonu yardımıyla internetten daha önce aynı konu veya türde yazılmış olan yazıları incelerim.					
26	Yazdığım İngilizce yazıları cep telefonu yardımıyla internetten aynı ya da benzer tür veya konuda yazılmış diğer yazılarla karşılaştırırım.					
27	Farklı dil becerilerimi nasıl geliştirebileceğim konusunda cep telefonu yardımıyla internette araştırma yaparım.					
28	Sunum yapmam gerektiğinde cep telefonundan internette ders anlatım ya da sunum videoları izleyerek anlatan kişilerin konuyu anlatım tarzlarını, jest ve mimiklerini incelerim.					
29	Yeni öğreneceğim konu hakkında fikir edinmek amacıyla cep telefonu yardımıyla internetten ön araştırma yaparım.					
30	İngilizce çalışırken cep telefonumun yanında olması kendime güvenimi artırır.					
31	Cep telefonundan İngilizce müzik dinlemek beni rahatlatır.					
32	Cep telefonundan İngilizce videolar veya filmler izlemek beni rahatlatır.					
33	İngilizce çalışırken cep telefonum yanımda olursa kendimi daha rahat hissederim.					
34	Cep telefonundan sosyal sitelere girip İngilizce konuşabileceğim yabancı arkadaşlar ararım.					
35	Yazdığım kompozisyonları cep telefonundan internet ortamında akran değerlendirmesi (peer editing) yapan sitelere gönderirim.					
36	Grup çalışması ödevlerimizi cep telefonundan internet ortamında grup arkadaşlarımla beraber yaparız.					
37	Yazılı ödevlerimiz olduğunda ödevlerimizi cep telefonundan internet ortamında arkadaşlarımla birbirimize göndeririz ve akran değerlendirmesi (peer correction) yaparız.					
38	Yazılı ödevlerimi kontrol etmeleri için cep telefonundan anadili İngilizce olan yabancı arkadaşlarıma gönderirim.					
39	Ödevlerimle ilgili takıldığım yerler olduğunda cep telefonu yardımıyla sınıf arkadaşlarımdan veya yabancı arkadaşlarımdan yardım isterim.					
40	İngiliz ve Amerikan kültürünü daha yakından tanımak için cep telefonu yardımıyla internette araştırma yaparım.					
41	Cep telefonundan internet ortamında arkadaşlarımızla kaynak (ders kitapları, ders notları vb.) alışverişinde bulunuruz.					

APPENDIX 3

INTERVIEW QUESTIONS-ENGLISH VERSION

1-What kind of technological tools do you use while studying English?

2- How do you use these tools to enhance your language skills?

3- How do you use these tools to improve your grammar, vocabulary and pronunciation?

APPENDIX 4

INTERVIEW QUESTIONS-TURKISH VERSION

1-İngilizce çalışırken hangi teknolojik aletleri kullanıyorsunuz?

2-Dil becerilerinizi geliştirmek için bu aletleri nasıl kullanırsınız?

3-Gramer, kelime ve telaffuzunuzu geliştirmek için bu aletleri nasıl kullanırsınız?