

THE EFFECTIVENESS OF MOBILE ASSISTED LANGUAGE LEARNING
AS A SUPPLEMENTARY MATERIAL FOR
ENGLISH LANGUAGE TEACHING COURSEBOOKS

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ABSTRACT

THE EFFECTIVENESS OF MOBILE ASSISTED LANGUAGE LEARNING AS A
SUPPLEMENTARY MATERIAL FOR ENGLISH LANGUAGE TEACHING
COURSEBOOKS

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This study was conducted (a) to investigate the effectiveness of mobile assisted language learning (MALL) applications in supplementing ELT coursebooks, and (b) to explore the attitudes of the students towards MALL supplementation.

Four pre-intermediate level preparatory classes with a total of 100 students participated in this study. During the eight weeks of experimental process, 50 students in the experimental group were sent supplementary SMS and MMS messages in addition to regular in-class learning whereas those 50 in the control group used conventional supplementary materials. In the fourth and the eighth weeks of the study, achievement test scores of the groups were analyzed and compared to measure the effects of MALL supplementation on students' achievement scores. Additionally, a post-questionnaire was employed to elicit the attitudes towards MALL supplementation for ELT coursebooks and the findings were quantitatively analyzed.

The findings of the study revealed that MALL supplementation had positive effects on students' achievement scores especially if the students read the messages regularly. Questionnaire data also suggested that the students had positive attitudes towards this new language learning application as a supplementary material for ELT coursebooks.

Key words: Mobile assisted language learning, mobile phones, supplementary messages, attitude

ÖZET

MOBİL TABANLI DİL ÖĞRENİMİNİN İNGİLİZ DİLİ ÖĞRETİMİ DERS
KİTAPLARINA DESTEK MATERYALİ OLARAK ETKİNLİĞİ

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Yüksek Lisans, Yabancı Dil Olarak İngilizce Öğretimi Bölümü

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Bu çalışma (a) mobil tabanlı dil öğrenimi (MALL) uygulamalarının İngilizce ders kitaplarını desteklemedeki etkililiğini ve (b) öğrencilerin MALL desteğine yönelik tutumlarını incelemeyi amaçlamaktadır.

Çalışmada dört alt orta seviye sınıftan toplam 100 hazırlık sınıfı öğrencisi yer almıştır. Sekiz haftalık deney çalışması süresince deney grubundaki 50 öğrenciye düzenli sınıf içi öğrenmelerinin yanı sıra SMS ve MMS destek mesajları gönderilirken, kontrol grubundaki 50 öğrenci klasik destek materyalleri kullanmıştır. Çalışmanın dördüncü ve sekizinci haftalarında MALL desteğinin etkililiğini ölçmek amacıyla grupların başarı testleri analiz edilmiş ve karşılaştırılmıştır. Bunun yanında, öğrencilerin İngilizce ders kitaplarına uygulanan MALL desteğine yönelik tutumlarını ölçmek amacıyla bir deney sonu anketi kullanılmış ve bulgular nitel yöntemlerle incelenmiştir.

Çalışma bulguları MALL desteğinin öğrencilerin başarı testi puanları üzerinde, özellikle de mesajlar düzenli olarak okunduğunda, olumlu etkilerini ortaya koymaktadır. Anket bulguları da öğrencilerin bu yeni dil öğrenimi uygulaması ile İngilizce ders kitaplarının desteklenmesine yönelik olumlu tutumlarını gösterir niteliktedir.

Anahtar kelimeler: Mobil tabanlı dil öğrenimi, cep telefonları, destek mesajları, tutum

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CHAPTER 1: INTRODUCTION

Introduction

The last several decades have seen a steady and rapid improvement in computer assisted language learning materials from very simple plain text gap-filling tasks and programming exercises to highly sophisticated interactive tools and multimedia applications. Every new technology has tended to lead to new perspectives in teaching, and language teaching is among the fields which have undergone big changes as a result of rapid improvement in technology. With the emergence and rapid improvement of small, portable notebook computers, for instance, the concept of “mobile learning” has gained popularity. Changes in mobile technologies, developments in information technologies and telecommunication, and expansion of the mobile market, likewise, have inspired people to make use of this “anytime” and “anywhere” technology in language teaching. Use of mobile devices in teaching has also been the focus of language learning studies since language learning necessitates interaction and autonomy which are the key concepts in mobile assisted language learning (MALL). Changing trends and ongoing developments in mobile devices have inspired educators, scholars, and investors to explore further uses of those devices in language teaching. This study, therefore, intends to explore possible uses and the effectiveness of MALL as a supplementary material for ELT coursebooks.

Background of the study

Mobile assisted language learning (MALL) has recently become a focus of research as a sub-branch of the wider field of study, computer assisted language learning (CALL). Along with the rapid development of computers and information technologies, implementation of new technologies in foreign language teaching has gained considerable importance both in the literature and in classroom practice (Kukulska-Hulme, 2006; Kukulska-Hulme & Bull, 2009; Lu, 2008; Thornton & Houser, 2002, 2005). Although there is a general consensus on the direct relationship between CALL and MALL, there is not yet an agreed separate definition of “mobile learning”.

According to Kukulska-Hulme (2009), mobility may both refer to “learner mobility” and “mobility of technologies” in general. Likewise, there have been several attempts to define certain concepts in mobile enhanced learning. For example, Trifanova *et al.* (2004 cited in Kukulska-Hulme & Shield, 2007:3) define mobile devices as “...any device that is small, autonomous and unobtrusive enough to accompany us in every moment”.

Likewise, Traxler (2005 cited in Kukulska-Hulme & Shield, 2007:273) defines mobile learning as “any educational provision where the sole or dominant technologies are handheld or palmtop devices”. It can be realized in these and other related definitions that there is a clear focus on the concepts of mobility and easy access. These are the key features which make mobile learning a fashionable topic among scholars, educators, and also learners.

The first educational practices of mobile devices were suggested in the UK and the USA at the beginning of the 2000s (Brown, 2001). However, they were merely

artificial trials in laboratory settings and this made those attempts far from being mobile at all. In August 2004, not too long after these first trials, Duke University distributed free iPods to all of its freshmen class students (Belanger, 2005), and a Korean firm provided the students who bought iRiver personal multimedia players with free downloadable college entrance exam lectures (Kim, 2004 cited in Kukulska-Hulme & Shield, 2007). These were among the first attempts to actively make use of mobile devices in teaching and learning, and since then the world has seen the rapid expansion of the use of mobile technologies in learning and foreign language learning in particular.

Afterwards, the potential of using a mobile phone to access the Internet in order to improve EFL listening skills (Nah, White & Sussex, 2008), and the opportunities to develop English pronunciation by using MALL (Saran, Seferoglu & Cagiltay, 2009), and the effectiveness of MALL on vocabulary acquisition (Cavus & Ibrahim, 2009; Lu, 2008; Stockwell, 2007; Thornton & Houser, 2005) have been investigated by the scholars and educators all around the world.

Studies and surveys clearly state that mobile devices are widely used by students, even if not for educational purposes. A survey in Japan (Thornton & Houser, 2005) revealed that 100 per cent of 333 tertiary level participants used a mobile phone, and 20 per cent of them had used a personal digital assistant (PDA). In addition to this, another very recent study (Cavus & Ibrahim, 2009) has shown that, compared to other mobile devices, mobile phones are widely used by university students. The popularity of mobile phones may be ascribed to their relatively low prices, a wider range of models and brands, and a longer history of use than the other types of mobile learning devices.

Growing interest have led to the emergence of a huge mobile devices market, many mobile learning websites, educational messaging software, bulk text and multimedia messaging companies all around the world. Similarly, this popularity and interest have also inspired scholars, educators, and school administrators to make use of that widespread technology for educational purposes. Kukulska-Hulme (2006), supports the idea that such an expansion of mobile technologies has enabled ordinary people to take advantage of this “anywhere and anytime” learning innovation, and that it is no longer a privilege of experts or wealthy people to own and use mobile devices and mobile learning facilities. However, it would be a serious misconception to believe that one can learn only via these mobile learning tools. Chinnery (2006) states that mobile learning devices are just instructional tools, rather than the instructors themselves. He also suggests that the effectiveness of mobile learning depends on the existence of an effective instructor who is equipped with good pedagogical knowledge.

In the light of previous studies (Thornton & Houser, 2005; Chinnery, 2006; Kukulska-Hulme, 2006, 2009), the advantages of using mobile learning facilities and adopting MALL in educational contexts can be listed as enhancing mobility and portability, enabling anytime and anywhere learning, providing the learner with fast and easy access to sources of information, and the excitement of learning with innovation. Along with its advantages in learning, there have been several contrary arguments about the disadvantages or misuse of mobile assisted learning. Research (Fallahkair *et al.*, 2007 cited in Kukulska-Hulme & Shield, 2007) suggests that mobile devices do not justify their expense, and that the same learning outcomes can be attained by using

written documents, books, home computers, or even TV programs. A different criticism directed at mobile learning in a recent study (Kukulska-Hulme & Shield, 2007) emphasizes the absence of a full exploitation of the mobility and portability of mobile language learning activities, and for this reason, it questions the sufficiency of evidence to prove the efficacy of MALL in language learning. Further studies on different and specific aspects of language would definitely contribute to the attempts at answering the questions about the efficacy of MALL. It should be kept in mind that not all the aspects, skills, or structures of language can be conveyed properly via mobile learning tools. Thus, rather than making general claims about the effectiveness of MALL on learning, studies should focus more on specific aspects of language learning for particular levels and learning contexts in order to ensure better understanding and use.

Statement of the problem

Mobile assisted language learning (MALL) has recently become a popular topic of interest as a sub-branch of computer assisted language learning (CALL) in teaching and learning second or foreign languages. Studies have, so far, investigated several aspects and issues related to MALL. The first attempts to use MALL in teaching were discussed by Brown (2001), and it was revealed that MALL was not perceived differently from CALL at that time. Later, another study (Shih, 2007) discussed the differences between MALL and CALL. Apart from definitional aspects, studies have so far investigated the effectiveness of MALL in developing different skills. The potential of using a mobile phone to access the Internet in order to improve EFL listening skills (Nah, White & Sussex, 2008), and the opportunities to develop English pronunciation by

using MALL (Saran, Seferoglu & Cagiltay, 2009) have been looked into, and several other studies have been conducted to see the effectiveness of MALL on teaching vocabulary in general (Thornton & Houser, 2005; Stockwell, 2007; Lu, 2008; Cavus & Ibrahim, 2009). In addition to these, the correlation between MALL and motivation to improve EFL proficiency (Nah, White & Sussex, 2008) has been among the major studies conducted about MALL. Some of these studies have dealt with MALL as a substitute for conventional learning materials or coursebooks, and as a distance learning tool. Despite the existence of studies focusing on many aspects of MALL in language teaching, the literature still lacks sufficient research exploring the effectiveness of MALL and mobile learning tools as supplementary materials for ELT coursebooks. Similarly, the literature in Turkey also lacks research investigating new technology integrated approaches in the field of language teaching. Additionally, the attitudes of learners towards MALL in Turkey, where it has rarely been used by few institutions as a supplementary teaching method, remain unknown due to a lack of sufficient research on the topic.

This study, therefore, aims to contribute not only to the literature, but also to educational practices by eliciting evidence for the practical uses and the effectiveness of MALL in EFL classes as a supplementary material in foreign language classrooms. The potential of MALL in language learning will be compared with traditional supplementary materials like worksheets, workbooks and glossaries. Any positive evidence for the effectiveness of MALL as a supplement to regular coursebooks might

enable the teachers to expand their students' learning into their daily lives by preparing and sending mobile support messages along with classroom instruction.

Research questions

1. What are the effects on Turkish EFL students' classroom achievement of using MALL as a supplementary learning material?
2. What are the attitudes of students towards using MALL as a supplementary learning material?

Significance of the study

This study addresses a newly flourishing approach in foreign language learning both in theory and in practice. Studies about different aspects of MALL do not have a long history, and they are limited in number. Thus, the literature lacks research exploring the possible uses, the importance, and the effectiveness of MALL in supplementing language teaching. Furthermore, improvements in mobile technologies and innovations in EFL learning have been on the rise and further research will always be needed in such an evolving field.

In the light of the findings of this study, teachers, administrators, or curriculum designers might be able to decide whether MALL is an advantageous supplementary source for conventional classroom teaching. They will then be able to decide whether to use MALL actively in language teaching. Curriculum designers, for instance, may decide to prepare curricula which include regularly used MALL applications. Investors and stakeholders in EFL teaching, such as language schools, private colleges and

university administrators, may also be able to see whether MALL is really worth the expense, especially in a developing country like Turkey. As it is a matter of debate whether it is worth spending that much money on technology in education, this study might give valuable ideas to consider before adopting or rejecting MALL. Finally, opinions and attitudes of the students who are included in the MALL process may provide us with an insight into further uses of MALL applications in educational settings. Positive findings might also inspire EFL/ESL textbook publishers to create mobile learning software or supplementary packs to support classroom learning.

Definitions of key concepts

MALL (Mobile Assisted Language Learning): MALL in this study refers to an “anytime and anywhere” approach to language learning that enhances learning through the use of mobile devices such as mobile phones, PDAs, tablet PCs, Smartphones, laptop computers, and personal media players (Kukulka-Hulme, 2005; Samuels, 2003; Traxler, 2007).

Supplementary messages: In this study, mobile SMS and MMS messages that were sent to support coursebook content and in-class learning in English preparatory classes were called “supplementary messages”. The messages intended to function as preparation for the following topics or practice of the previous topics.

Effectiveness: “Effectiveness” in this study corresponds to the positive or negative impact of supplementary messages on students’ achievement test scores.

Achievement tests: In this study, “achievement tests” that were used as measurement instruments were mainly midterm examinations given at ADÜ YDYÖ. Other achievement tests like quizzes were not used in the analyses since they did not all include four basic language skills as well as grammar and vocabulary.

Basic skills: “Basic skills” term in this study corresponds to four main language skills such as reading, writing, listening, and speaking as well as grammar and vocabulary.

Attitudes: Students’ feelings, experiences, and thoughts about MALL supplementation was explored through the post-treatment questionnaire at the end of this study. From this perspective, “attitudes” refers to the feelings, opinions, and experiences of the participants.

Conclusion

In this chapter, the background of the study, statement of the problem, research questions, and significance of the study have been discussed and explained in detail. In the next chapter, the literature will be reviewed under several headings. In the following chapters, the methodology of the study and the results will be presented. Finally, the findings of this study will be discussed in light of the findings of previous research in the literature in the last chapter.

CHAPTER 2: LITERATURE REVIEW

Introduction

Along with the rapid improvements in technology, mobile devices have become widespread in the last few decades. According to the official report of the International Telecommunication Union (2009), 67 per cent of the world population has mobile cellular subscriptions. The report also states that the developed countries in Asia, the Pacific and Europe have the greatest numbers of mobile broadband subscriptions. Contrary to what might be expected, there has also been a huge increase in the number of mobile technology users in the developing countries. In addition to their extensiveness around the world, there are some local studies (Thornton & Houser, 2005) confirming the widespread use and ownership of mobile devices among high school and college students. Such interest in mobile technologies and rapid technological developments have been inspiring people from different fields and sectors like advertising, finance, transportation, and education to make use of mobile technologies.

Rapid improvements and expansion of mobile technologies have also been one of the primary focuses of many scholars, educators, and administrators in different fields of education. With the emergence of portable, mobile devices, these people started their attempts to make the most of this newly flourishing technology. Such attempts have led to the emergence of a new concept: mobile learning (ML). Likewise, the attempts and efforts to use mobile devices in language learning have resulted in another new concept: “mobile assisted language learning (MALL).”

Since the beginning of the 2000s, MALL has been an intensively researched field of study. Every new technology introduced inevitably influenced the language teaching and learning methods, approaches, and techniques. With the emergence of online accessible software and tools, for example, teachers started to support classroom learning with additional online applications that can be easily accessed by the students in their homes. The rise and expansion of portable media players, similarly, brought about the idea of “anytime, anywhere learning” which has also been an inspiration for distance education. The production of portable, light, and accessible wireless devices like notebook computers, personal digital assistants (PDAs), and GPS (Global Positioning System) navigators was another milestone in language teaching practices. Nowadays, many people around the world and in Turkey are able to access and use these technologies, and there have been a number of studies exploring the effectiveness of those tools and applications in teaching and language teaching in particular.

Technology in the classroom and Computer Assisted Language Learning (CALL)

The emergence of CALL

The origins of computer assisted learning (CAL) and computer assisted language learning (CALL) can be traced back to the 1950s when large, unmovable mainframe computers were used as technological instructional tools. Even in this era of low technology, the developments in computers were quite rapid and, not long after the first uses of CALL, the University of Illinois introduced one of the most important language learning applications, called PLATO (Programmed Logic for Automated Teaching Operations), in 1959 (Marty, 1981). PLATO’s significance among many other computer

applications was mostly due to its advanced computer and specially designed programming language for language teaching purposes. These initial developments in CALL were followed by the arrival of the personal computer (PC) towards the end of the 1970s. PCs started a new age in CALL. Due to their accessibility, sophisticated programming features, and suitability for further upgrading, personal computers became one of the mostly used devices in language teaching. Although the first personal computers were equipped with quite simple applications like simple tutorials or drill interfaces, there was a tendency to use these devices in language teaching. The tendency to make use of newly-introduced technologies in language teaching and learning continued and increased with the emergence of microcomputers, videodiscs, CD/DVDs, hypertext, hypermedia, and interactive multimedia applications (Beatty, 2003).

Since the beginning of the 1990s, far more innovations in computer technology have been witnessed than ever. The evolution of internet technology and www (World Wide Web) sources changed the lives of both ordinary people and those interested in language teaching and learning. Computerized learning was no longer limited to computer programs accessible only on the computers at a university or in a computer laboratory. On the contrary, “www” has enabled people to access vast amounts of information from various sources wherever and whenever they have the opportunity to connect to the Internet (Levy, 1997). This easy access to sources of information on the Internet also inspired educators. Since then, there have been lots of language teaching websites, online sources and materials for language learning, online publications of

books, and many other multimedia applications that have proved to be useful language learning tools.

Nowadays, it can be observed that CALL applications are used on many occasions, for various purposes. For instance, many teachers present information using the Internet and technological tools like LCD projectors or screens in the classroom. They frequently ask their students to email their assignments or submit them online. There are many interactive language learning games with colourful and motivating interfaces available to young learners. Almost all English language teaching textbooks are accompanied by audio cassettes or video CDs, interactive DVDs or software, and online subscriptions to specially designed language learning websites.

From CALL to MALL

Every innovation in the world of technology contributes to the existing applications and makes them more efficient and more practical to use. The evolution of mobile learning is clear proof of this statement. Current developments in mobile technologies have contributed greatly to present CALL and e-Learning devices.

In 50 years of rapid progress, CALL was greatly empowered by the expansion of e-Learning (electronic or web-based learning) in the 1990s. A decade after this outstanding innovation, m-Learning (mobile learning) enabled CALL users to access the information whenever and wherever they needed. The use of mobile assisted language learning applications was first observed at the beginning of the 2000s. Several universities and educational firms distributed free mobile learning devices to their

students and customers (Belanger, 2005) and MALL became an actively used learning tool after a series of trials in laboratory settings. These attempts were all perceived as breakthroughs by educators and scholars. This process illustrates the swift evolution that the current technologies have undergone.

Mobile Assisted Language Learning (MALL)

Definitions of concepts

Mobile assisted language learning is a relatively new field in language learning and settled definitions have not yet developed for terms frequently used in this field. Even the definition of the “mobility” itself is a highly controversial issue. Scholars have been exploring ways of creating comprehensive, universal, and satisfactory definitions of some concepts in mobile learning (Keegan, 2002; Kukulska-Hulme & Traxler, 2005; Traxler, 2007).

Most of the disagreement about the definition of mobile learning and mobile language learning arises from the connotations of “mobility”. Kukulska-Hulme (2009) argues that this ambiguous term may have two different connotations which will inevitably affect the definition of “mobile learning”. On one hand, it may refer to “mobile technologies” which are portable and accessible anytime and anywhere. On the other side, “mobility” may also refer to the “mobility of the learner”, in which case the focus is not on the technology used, but on the learner who accesses the information in different places, at different times. Kakiyama and Sørensen (2001) emphasize that while defining mobility, spatial mobility should not be the only concern; “temporal” and “contextual mobility” are also of great importance. In this sense, Traxler’s (2005)

definition of mobile learning as any educational provision where the dominant technologies are handheld devices would not be that comprehensive in that it does not refer to learner mobility. Thus, the definition of mobile learning as a type of learning that takes place when the learner is not at a fixed location, or when the learner takes advantage of the learning opportunities offered by mobile technologies would be healthier to adopt (O'Malley *et al.*, 2003: 6). In light of the descriptions and definitions of mobile learning, therefore, mobile assisted language learning (MALL) can be defined as an approach to language learning that enhance “anytime and anywhere” learning through the use of “mobile devices” such as mobile phones (also cellular phones or hand phones), PDAs, tablet PCs, Smartphones, laptop computers, and personal media players (Kukulska-Hulme, 2005; Samuels, 2003; Traxler, 2007).

Kukulska-Hulme (2005) reports in her study that there is some computing-related terminology that is worth knowing even for someone who has no interest or ability in technology. The terms “ubiquitous”, “pervasive”, and “ambient” are the ones which have been frequently used to describe the characteristics of MALL. Ubiquity, in this context, refers to being available everywhere due to mobile devices’ portability. Portability (small size, and lightness) of mobile devices turns them into familiar, ordinary objects in our daily lives, and this makes MALL a pervasive learning type. In time, these small, portable, light, ubiquitous mobile devices become such natural parts of our lives that they are called “ambient” (Kukulska-Hulme, 2005).

Types of MALL devices and current uses

Mobile learning is an extremely fast-moving field with numerous devices and applications which are in a process of rapid change and development. Trinder (2005) presents a broad list of mobile learning and mobile enhanced language learning devices ranging from simple single-purpose devices like audio-players, to multi-purpose high-technology devices such as mobile phones and personal digital assistants (PDAs).

Trinder's list of mobile tools (2005) includes mobile phones, PDAs, Smartphone, GPS tools, laptop computers, MP3 or MP4 players, video tapes, multimedia players, e-game tools, e-organisers, e-books, CDs and DVDs as mobile learning devices. Although attempts were made to use these devices in artificial learning settings for experimental purposes, nowadays, it can be observed that they are also used for educational purposes and many of them have already proved to be effective tools of language learning.

Mobile Phones

According to a recent report by International Telecommunication Union (ITU, 2009), mobile phones, among the many types of mobile learning devices, are the most widely owned and used devices, with approximately 4.6 billion subscriptions all over the world. Moreover, this number has been increasing at an enormous pace due to the developments in the mobile phone technology and the expansion of the mobile market. This popularity of mobile phones is rooted in several reasons. First of all, even the simplest mobile phones provide an SMS (Short Message Service) function for sending text messages, alarm clocks and planners to wake us up or to remind us of important dates. Similarly, most of them also have MMS (Multimedia Message Service) functions

which enable the user to transmit messages which integrate coloured visuals, sounds and text (Collins, 2005). Additionally, mobile phones incorporate basic daily personal information management tools like address books and calendars which let people get rid of their phonebooks and agendas (Trinder, 2005). More sophisticated mobile phones of the modern age of technology include integrated software, cameras, Bluetooth connections, media players, mobile operating systems, wireless connection tools, and even navigation tools (GPS) which make them no different than a fully equipped computer. However, despite all these sophisticated functions and widespread use of mobile phones, the users rarely perceive their potential as a learning tool (Pettit & Kukulska-Hulme, 2007) and only a minority of users use them for learning purposes.

The popularity of mobile phones has inspired not only the stakeholders in the mobile market, but also many innovative scholars and educators in the last decades. There have been a number of studies looking into the use of mobile phones and basic functions of mobile phones in language learning. Kiernan and Aizawa (2004) carried out one of the first studies investigating the use of mobile phones in learning. In their study, they combined a MALL approach with task-based learning and drew attention to a number of potential advantages of mobile phones in language learning. Later on, several studies (Thornton & Houser, 2005; Cavus & Ibrahim, 2007; Saran, Seferoglu & Cagiltay, 2009; Stockwell, 2007; Kennedy & Levy, 2008; Lu, 2008) have particularly investigated vocabulary learning opportunities through mobile phones' SMS and MMS functions. In these studies, mobile phones have mostly proved to be effective vocabulary learning devices. For example, Thornton and Houser's study (2005) reveals that students

who received mobile vocabulary lessons learned more vocabulary than the students learning the same set of vocabulary in class. Similarly, Lu (2008) states that mobile phones are more effective vocabulary learning tools than traditional pen and paper based vocabulary learning. However, he also mentions the importance of participation in the learning activity. The results of the same study suggests that the students reading the vocabulary messages with a high frequency did better on the post-tests than those reading the messages with less frequency. Nah, White and Sussex (2008) recently conducted a similar study with mobile phones, but in that study, they used mobile phones to access the Internet for learning purposes. At the end of this quasi-experimental study, they concluded that students were more motivated to learn on the WAP sites, and eventually, revealed positive attitudes towards using mobile phones as means of mobile online language learning.

The studies mentioned above show that mobile phones are more frequently put into practice for educational purposes than the other MALL devices. When it is considered that mobile phone technology has been the most rapidly adopted one in history (ITU, 2009), and that mobile phones are more accessible, cheaper, lighter, and more practical than many other mobile devices, it is not difficult to understand the reasons behind their popularity in research and practice.

Personal Digital Assistants (PDAs)

Beatty (2003) explains Personal Digital Assistant (PDA) as small hand-held computers used for downloading and storing information such as documents, databases and calendar entries. This definition of PDAs was perhaps a valid and complete one for

the times Beatty carried out his research. Although it still includes basic functions of PDAs, several additional features of the modern PDAs should be added to this definition. Modern PDAs, for example, enable users to compose music, to capture and create videos, and to program advanced computer software. Nowadays, these devices are also used as GPS navigators through direct connection to the Internet via GSM operators. Due to their advanced technological features, such as multimedia interfaces, integrated operating systems, media players, and larger screens, PDAs are among the mobile devices that have been most used for educational purposes (Clough *et al.* 2007; Corlett *et al.*, 2005; Song & Fox, 2008; Trinder, Magill & Roy, 2005). Nevertheless, when compared to mobile phones, they are owned and used by relatively few people (Cavus & Ibrahim, 2009; Chinnery, 2006). Studies have so far investigated different uses of PDAs in several fields of study in education. Corlett *et al.* (2005) for instance, designed a mobile learning organiser which was implemented on a wireless-enabled handheld PDA to support 17 MSc students' academic achievement. The organiser provided the students with all the content they covered in classes. In this study, PDA-enhanced learning was favoured by the students and many students reported that they wanted more resources to be made available in PDA format (Corlett *et al.*, 2005). However, besides its advantages like portability, lightness, attractiveness, and sophisticated operating system features, students also reported some problems like short battery life, no internet access outside the school, applications which slowed down the system, and general crashes from time to time.

Another study, by Song and Fox (2008), focused on using PDA devices for incidental vocabulary learning. This study suggests that undergraduate level students can make use of PDAs in various and novel ways to improve their vocabulary. They sometimes use PDAs to connect to the internet for urgent needs, and sometimes use them as electronic dictionaries.

Podcasts and Media Players

The Oxford Advanced Learners' Dictionary (2003) provides a definition of the portmanteau word "podcasts" as a series of digital media files that are released and downloaded through an Internet connection. An important point to be considered about podcasts is that they work on the basis of subscription technology, that is the user subscribes to the source of the materials on the internet and then this source sends the podcasts, rather than signing in and downloading material (Campbell, 2005). In this respect, synchronization of podcasting devices with computers is an important issue to increase the effectiveness of these devices. The word podcast is usually explained as a combination of iPod, a famous media-player, and broadcast (Evans, 2008: 492). Podcasts were first introduced at the beginning of the 2000s and Duke University was the first institution to realize the educational potential of these magic boxes (Belanger, 2005). In 2005, Duke University distributed free 20GB Apple® iPod devices to all of its freshmen students and enabled them to download course content to support their learning. Since then, there have been many studies (Bongey *et al.*, 2006; Abdous *et al.*, 2009) exploring the use and the effectiveness of podcasting in supporting academic achievement and language learning. In a recent study, Power and Shrestha (2009) have

suggested that podcasting is also a new tool being used in education and language learning in particular, and podcasts can be enhanced by adding images, movies, and hyperlinks to their contents. However, in a previous study, Stanley (2006) used podcasts as supplementary tools for textbook materials in his study and the results suggest that podcasting can serve as an efficient supplemental resource outside the class.

Additionally, several other studies (Evans, 2008; Lee & Chan, 2007) have focused on the effects of podcasting on the students' motivation and attitudes towards learning and they have elicited positive attitudes suggesting that podcasts are motivating tools for learning.

In addition to podcasting devices like iPods, iPhones or iTunes, simple media players can also be used for similar learning purposes particularly in distance education. In Turkey, Anadolu University provides its students in the Faculty of Open Education with MP3 files of the courses they take. Students listen to these sound files in any kind of media player enabled device like MP3 or MP4 players, portable CD/DVD players, mobile phones, and palm computers.

MALL: a substitute or a supplementary device?

Mobile assisted language learning (MALL) studies have raised numerous controversial questions. Among the most important of these is whether MALL should be adopted as a substitute for regular classroom teaching practices or should be used as a supplementary learning tool to support the regular classroom teaching and learning process. At the initial stages of MALL, there were no such arguments proposed. However, as MALL continued to improve both in its technologies and practices, studies

(Cherian & Williams, 2008; Zhang, 2004) began to focus on the use of MALL as a substitute for classroom teaching. Cherian and Williams (2008) have stated that they observe no significant difference between distant mobile learning outcomes and traditional classroom learning outcomes. They further note that with appropriate pedagogy, mobile learning can be as effective as face-to-face learning, and they even prefer to call m-Learning as “the beginning of the end of classroom learning” (Cherian & Williams, 2008:1).

On the other hand, Chinnery (2006) has argued that mobile technologies cannot function as the instructors in the classrooms. They are only instructional tools which are useful in the hands of qualified and successful instructors. In the same study, Chinnery supports his arguments by calling attention to certain disadvantages of using MALL either resulting from its own nature or from the instructors themselves. A number of disadvantages and challenges related to the use of MALL applications such as small screens, limited audiovisual quality, virtual keyboarding, and limited power supply clearly shows that MALL cannot possibly serve as a substitute for traditional classroom learning (Chinnery, 2006:13).

Similarly, Kukulska-Hulme (2009) has investigated the effects of mobile learning practices on traditional language learning. Unlike the studies suggesting the use of MALL as a potential substitute for classroom learning, Kukulska-Hulme (2009) has dealt with MALL as a supplementary learning material and she has come up with some suggestions about the best pedagogy to implement in language learning.

MALL as a supplementary material in the language classroom

Advantages of MALL as a supplementary material

Since its emergence as an extension of e-Learning at the beginning of the 2000s, MALL devices and applications have been intensively investigated in many studies. Most of these studies have either supported or disclaimed the use of MALL as a learning material in educational settings.

Studies have commonly emphasized the mobility of MALL devices, which lets the users take the advantages of these devices wherever and whenever they want (Cherian & Williams, 2008; Chinnery, 2006; Kennedy & Levy, 2008; Kukulska-Hulme, 2009; Power & Shrestha, 2009; Wishart, 2008). Learning, similarly, is not restricted to four-wall classrooms in this type of learning. This unique feature of mobile devices results in many other advantages. For example, Kennedy and Levy (2008) have reported that learners find learning languages with MALL applications quite motivating due to their portability. Half of the participants in that study saved the SMS vocabulary lessons for rereading later, and one of the students said:

“The messages encouraged me to go over points or vocabulary seen in class outside my usual study time.” (Kennedy & Levy, 2008: 323)

Another reason that makes MALL devices advantageous is that they are highly accessible and there is a very widespread ownership of certain mobile devices like mobile phones, wireless laptops, and media players (ITU, 2009; Thornton & Houser, 2005). Portability and widespread ownership concepts together correspond to the

“ubiquity” of MALL devices, which has been a useful concept to define mobile learning and MALL (Kukulska-Hulme, 2005).

In order to gain a deeper insight into the benefits of using MALL as a supplementary material, it will be useful to focus on the advantages of using different MALL devices separately. Mobile phones, first of all, free learners from place and time limitations and this is a highly motivating situation for the students. As mentioned before, students feel more motivated to learn when they are free to decide when and where they learn. More sophisticated mobile phones or Smartphones enable learners to connect to the internet to access the information they need anytime and anywhere. In a study on the development of listening skills by accessing the Internet using mobile phones, Nah, White and Sussex (2008) found that the WAP sites accessed through mobile phones were effective for EFL listening skills development and served as useful supplementary learning means to be used regularly outside the classroom. The reasonable price of the mobile phones and mobile communication, huge broadband capacities (ITU, 2009) of the GSM servers, and the integration of several advanced features in one mobile phone can be listed as some other advantages of using mobile phones as supplementary MALL devices.

Personal Digital Assistants (PDAs), likewise, have been among the most favoured MALL devices due to their larger screens, interactive functions, user-friendly keyboards, integrated office software, easy access to the Internet via wireless connection equipments, and advanced multimedia features. Contrary to what Chinnery (2006) suggests about the screen sizes of PDAs and Smartphones, research (Bradley *et al.*,

2005) reports that reading from PDA screens rather than carrying A4 papers in order to review previous topics before examinations or in-class assignments can be a lot more appealing to students. According to Beatty (2003), PDAs are useful learning devices in that they provide students with an intensive learning environment, and by using PDAs, students can receive and send their assignments through wireless modems and cards anytime in a day. This advantage is clearly due to the flexibility in when and where they are posted and completed with the access to the Internet. In a related study, for example, Wishart (2008) distributed PDAs to his participants and explored various uses of PDAs to supplement classroom learning. The participants were all foreign language teacher trainees and it was observed that they were able to download teaching materials on the internet, access online dictionaries or send and receive e-mail messages on their PDAs. They were also able to access the course documentation anytime and anywhere they wanted. Another benefit they reported was easily accessing the online course discussion groups in which they had the opportunity to discuss course content either with their instructors or other trainees. The participants also stated that despite the PDAs' relatively short battery lives, they used PDAs to audio or video record themselves or their students while speaking in the target language in order to monitor their process and give feedback later (Wishart, 2008). Finally, another recent study (Song & Fox, 2008) found that students mostly make use of PDAs as comprehensive web-enabled dictionaries which help them improve their vocabulary learning and pronunciation skills.

Podcasts and podcast-enabled devices like iPods have been used by millions of people all around the world mostly for entertainment. However, studies (Abdous *et al.*,

2009; Belanger, 2005; Copley, 2007; Ducate & Lomicka 2009; Sutton-Brady *et al.*, 2009) have shown that podcasting can be beneficial to learning, and in particular to language learning. Duke University's iPod First Year Experience Final Evaluation Report (Belanger, 2005) indicated that iPods enabled flexible, location-independent access to multimedia course content and thus reduced dependence on physical classroom materials. In the same study, it was reported that using iPods served as a means of individual learning, which is one of the key concerns of mobile learning. Similarly, there has been research (Copley, 2007) revealing students' interest in and motivation towards learning through podcasts of regular lectures. Abdous *et. al.* (2009) have further suggested that academic podcasting has great potential for learning in a foreign language classroom and with proper pedagogy it can also be integrated into the curriculum. They discuss iPods' and MP3 players' affordability, portability, and accessibility as the factors making these small devices a great potential for foreign language learning.

Various advantages and potential benefit of MALL and the use of mobile devices in foreign language learning have been discussed. Despite the abundance of benefits of using MALL as a supplementary learning material, there have also been claims about the drawbacks and difficulties of using MALL in foreign language learning or learning in general.

Disadvantages and challenges of using MALL as a supplementary material

Along with its numerous advantages, MALL can sometimes be disadvantageous for both teachers and learners. Studies that have been conducted so far revealed not only positive findings supporting the usefulness of MALL as a supplementary learning

material, but have also come up with some contrary findings suggesting that MALL does not serve as effectively as it has been thought to do. Likewise, the difficulties of using MALL in teaching and learning have been pointed out many times in the literature (Belanger, 2005; Chinnery, 2006; Kukulska-Hulme & Traxler, 2005; Kukulska-Hulme, 2009; Power & Shrestha, 2009; Todd & Tepsuriwong, 2008).

First of all, mobile phones, as one of the most widespread MALL devices, have been criticized for their tiny screen sizes and keyboarding problem due to one-finger data entry function (Chinnery, 2006). These features make mobile devices inappropriate tools for improving certain skills like writing. Thornton and Houser (2002 cited in Chinnery, 2006) also state that mobile phones are not suitable devices to learn new content but they may serve as effective tools for reviewing and practicing. Kiernan and Aizawa (2004) conducted a comprehensive study comparing the foreign language achievements of three groups of students: PC e-mail users, mobile phone e-mail users, and face-to-face speaking learners. At the end of their study, they found that the students in the “mobile phone e-mail user group” were not able to complete the narrative tasks in due time, whereas all other students were successful in completing the given tasks. This failure in completing the narrative tasks on time can be attributed to one-finger data entry, and it may be an indication of the fact that MALL cannot always be effective in improving all the skills in foreign language learning. Another serious drawback of using MALL applications frequently in language learning is that the output of the mobile devices is gradually becoming visual rather than verbal (Colpaert, 2004), and this cannot

be an acceptable situation for language learning, which necessitates a lot of communication and verbal interaction.

Secondly, as more advanced products of modern technology, PDAs also have certain drawbacks as well as their numerous benefits in language learning. When compared to other MALL devices like mobile phones, MP3/MP4 players, CD/DVD players, and even laptop computers, with prices over \$1000, PDAs are not easily accessible for many people. Another commonly stated problem with using the PDA as a MALL device is the wireless internet connection problem outside campuses and educational settings (Wishart, 2008). Additionally, it has been reported several times that the battery life of PDAs is relatively short and poses a serious problem by interrupting the learning process (Corlet *et al.*, 2005). Corlet *et al.*'s study also showed that PDAs' limited memory capacity turns out to be a problem as the learners keep downloading resources either for educational purposes or for entertainment.

Attitudes of students and teachers towards MALL

Studies exploring the attitudes towards using mobile learning devices in language learning and teaching have mostly been integrated into the studies about the effectiveness of MALL in language learning. So, there are not many studies directly delving into the attitudes of learners and teachers towards MALL in the literature. For this reason, the attitudes of the students and teachers can be best explained by their performances, comments, ideas, and perceptions in the effectiveness studies.

Kennedy and Levy (2008), for instance, elicited in their post-trial survey that a huge percentage of students find learning vocabulary through MALL very effective and motivating. In a similar study (Todd & Tepsuriwong, 2008), the students reported that they think “mobile mazes” that are used to teach different aspects of English are quite useful and motivating tools for language learning. Additionally, Stockwell (2008) also revealed that learners have high expectations of MALL, and thus, a strong motivation for learning languages via MALL applications despite the difficulties they experienced in MALL sessions in the study. Another study by Corlett *et al.* (2005) focused on the attitudes of the students towards mobile assisted learning via PDAs, and students’ responses indicated that mobile learning organizers as MALL applications are not perceived as very effective means of learning. Nevertheless, the ratings on the Likert Scale surveys in this study demonstrated that the students still had positive attitudes towards learning via MALL devices like iPods.

Studies have so far investigated many aspects of technology enhanced learning applications and mobile assisted language learning. However, the literature still lacks research investigating MALL applications as supplementary learning materials for English language coursebooks. Another fact to be taken into consideration is that the literature also lacks research focusing directly on attitudes towards using MALL as a supplementary learning material can be explained by the rareness of the use of MALL applications in educational settings (Pettit & Kukulska-Hulme, 2007). MALL, due to its being a new technology in many respects, has been put into practice mostly in experimental learning settings both by scholars and educators who have been attempting

to explore the potential of this new field. Thus, the students and teachers whose attitudes have been taken into consideration are generally the participants in these studies.

Therefore, further studies on the attitudes towards MALL as well as effectiveness studies may be conducted in real educational settings where MALL has been used in practice for a certain period of time.

Conclusion

The literature review in this chapter began with an introduction of the emergence of computer assisted language learning (CALL) and afterwards, the shift from CALL to mobile assisted language learning (MALL) was discussed. Additionally, some key concepts and terms in MALL were defined and different definitions of concepts were compared. Finally, after comparing two different views about the use of MALL in educational settings, it was explained that MALL was used as a supplementary material in this study. In addition to these, the findings of previous research about the attitudes towards MALL were discussed. The literature review revealed that there is still need for further research into the effectiveness of MALL applications in supplementing ELT coursebooks and into the attitudes towards such supplementation in educational settings.

In the next chapter, the setting, participants, instruments, procedure and data analysis methods of the study will be discussed.

CHAPTER 3: METHODOLOGY

Introduction

This study investigated the effectiveness of mobile assisted language learning (MALL) applications in supplementing ELT coursebooks at tertiary level. In this investigation, a special project called MobilinguAid (Mobile Language Aid) was designed to supplement students' classroom learning through MALL applications like SMS and MMS messages and to explore whether such supplementation contributes significantly to the classroom achievement of the students. This study attempted to answer two research questions:

1. What are the effects on Turkish EFL students' classroom achievement of using MALL as a supplementary learning material?
2. What are the attitudes of students towards using MALL as a supplementary learning material?

Setting and Participants

Study Setting

The study was conducted at Aydın Adnan Menderes University (ADÜ), in the School of Foreign Languages (ADÜ YDYÖ) in the spring term of the 2009-2010 academic year. Founded in 2009, ADÜ YDYÖ is a newly established school. Previously, preparatory class English language at ADÜ had been taught at Kuşadası and Didim Vocational Schools. For this reason, some administrative problems like delayed feedback for getting the necessary permissions could be anticipated in this research.

Currently, there are 17 preparatory classes with students from Kuşadası School of Tourism and Hotel Management and Didim Vocational School. In both schools the medium of instruction is at least 30 percent English. Students coming from these Schools are registered in the departments of Hotel Management, Travel Management and Tour Guiding, Food and Beverage Management or in some other tourism related programs. At ADÜ YDYO, students from these departments are required to take an English proficiency test at the beginning of the semester. Those scoring under 60 out of 100 pursue a one-year compulsory preparatory class English program. These students are placed into classes with different levels of proficiency on the basis of their scores from the proficiency test. During the year, they attend main course and grammar skills classes and they are taught four basic skills in the main course classes which are primarily guided by the coursebooks used in the institution. At the end of the year, all students at the School of Foreign Languages take another proficiency test and if they manage to pass the test, they register for their departments in different faculties, schools and vocational Schools. If they fail the proficiency test, they have to repeat the preparatory class one more year.

Profile of the participants

Students from four different pre-intermediate preparatory English classes from Kuşadası School of Tourism and Hotel Management took part in the study. Students were to follow a 4 year program with 30 percent English-medium instruction after completing preparatory class English program. They were all regular day-time students and no evening classes were involved. The classes were chosen in cooperation with

ADÜ YDYO administrative staff on the basis of equality. Hence, they were all 4-year undergraduate, day-time, pre-intermediate level English preparatory students from the same School at ADÜ

Two of the four classes formed the ‘experimental group’ and two the ‘control group’. At the beginning of the experimental process, the achievement scores of all of the students in the four classes ($N = 112$) were obtained. In order to ensure equality between the achievement levels of the experimental and control group students at the start of the process, it was determined that the scores of outliers and drop outs would be intentionally left out of all subsequent analyses. However, these students were not informed about their exclusion from the analysis in order to avoid harming their feelings and decreasing their motivation in class.

After these exclusions were made, 50 students remained in each group. 64 were males and 36 were females. The median achievement score of students in the control group was 64.83 ($SD = 13.64$) and that of students in the experimental group was 65.33 ($SD = 13.64$). Mann-Whitney tests showed no significant difference in scores between the two groups ($U = 1236.5, p = .926$)

Instruments

Several instruments were used in this quasi-experimental study. Some of the instruments readily existed whereas some others were created by the researcher. For instance, a special software interface enabling the researcher to send SMS and MMS messages to the participants was purchased as a readily existing instrument. The post-

treatment questionnaire, on the other hand, was created by the researcher to explore participants' attitudes towards MALL supplementation. In order to depict a detail view of the study, the instruments will be explained and discussed under several sub-headings in this session.

Pre-test, Post-tests, and Post-questionnaire

In order to ensure the equality between the groups' levels of achievement at the beginning of the study, mid-term examination scores of the participants were obtained from ADÜ YDYO and used as "pre-test" scores in this study. Similarly, in order to measure the improvement of the students after the experimental process, official records of the achievement test scores from the midterms given in the second semester were obtained in the fourth week, and at the end of the study. All these tests were prepared and graded by ADÜ YDYO Testing Office instructors. The tests included basic language skills except for speaking which was tested through a separate speaking quiz. As MALL supplementation does not have any direct effect on speaking skills, it was thought that the scores of these speaking tests should not be included in the measurements. Instead of this, midterms which included grammar, vocabulary, reading, writing, and occasionally listening were chosen as pre- and post-tests in the study. Finally, a post-questionnaire developed by the researcher and controlled by two other cooperating instructors from ADÜ YDYO was used to explore the attitudes of the participants. This questionnaire consisted of seven sections including "demographic and background profile information", "general tendencies towards using mobile phones", "attitudes towards the content of supplementary messages", "attitudes towards mobile

assisted language learning”, “comparison of attitudes towards SMS and MMS message types”, “attitudes towards the instructiveness of different content types” and “additional opinions and recommendations”. The post-questionnaire was also piloted with 30 students in order to check the reliability of the questionnaire and to make necessary revisions to the items. Since the students’ level of proficiency in English was not sufficient, the questionnaire was given in Turkish (see Appendix C) and translated into English for the analyses (see Appendix B).

CMFCELL Bulk Messaging Software

Upon forming the experimental and the control groups, special software called CMFCELL, which enabled the researcher to create and send bulk messages to many participants, was purchased before the start of the MobilinguAid study. Due to some governmental regulations on the sale of this software, it was purchased with the help of a private language teaching institution. The software enabled the researcher to create online phonebooks for each class and group in the experiment (see Figure 1), and post bulk SMS or MMS messages to all participants at once. Using the interface, the researcher was also able to create MMS messages including visuals and audio content easily. After sending the messages, it was also possible to check the reports and see whether messages were received by the participants or not.

5010-5320086905 | Adres defteri

Gruplarda ara:
 Grup Ara Kişi Ara

	Grup Adı	Tarihi	Aktif	Pasif	Toplam
<input type="checkbox"/>	[Tüm Kişiler] Adres defterinizdeki kayıtlı tüm kişiler.				
<input type="checkbox"/>	XTRAS Additional st.	2010-03-23 10:44:20	2		2
<input type="checkbox"/>	ALL INSTRUCTORS All cooperating instructors	2010-03-05 16:35:05	15		15
<input type="checkbox"/>	HS105 Student Contacts	2010-03-04 17:28:50	25		25
<input type="checkbox"/>	HS104 Student Contacts	2010-03-04 17:28:39	25		25
<input type="checkbox"/>	HS103 Student Contacts	2010-03-04 17:28:23	26		26
<input type="checkbox"/>	HS102 Student Contacts	2010-03-04 17:05:09	25		25
<input type="checkbox"/>	ADVISORS Advisors	2010-02-25 14:04:05	4		4

Sayfa Boyu : 50 7 kayıttan filtrelenen 7 adeti toplam 1 sayfada listeleniyor. Mevcut Sayfa : 1

Figure 1- CMFCELL phonebooks interface

Supplementary SMS and MMS Messages

The software purchased for this experimental study had a user-friendly and practical interface which enabled the researcher to design and create messages quite easily. The researcher could decide on the content to include in the messages, and prepare it as a plain text or multimedia message (see Appendix G). It was possible to create the SMS (Short Message Service) messages simply by typing the content just like sending an SMS via a mobile phone (see Appendix F). However, for sending MMS (Multimedia Message Service), some more technical details had to be considered while preparing the messages (see Appendix E). For instance, pixel values of the visuals, size of the contents, width of the screens, and format of the pictures included were all taken into consideration in order to succeed in sending them to the participants. Figure 2 illustrates an MMS preparation screen. In SMS messages, target forms and contents were bolded, capitalized or underlined, whereas in MMS messages they were colored or accompanied by colorful visuals which made these messages more interesting and

motivating than the simple, plain text messages (see Appendix G). Finally, in this study, seven types of message content were sent to the participants. These were mainly the messages including “new words and their meanings”, “new phrasal verbs and their meanings”, “examples of new grammar structures”, “grammar rule explanations”, “form and vocabulary integrated, *Did you know?* titled messages”, “description famous people and figures”, and “Today in History titled messages” (see Appendix D).

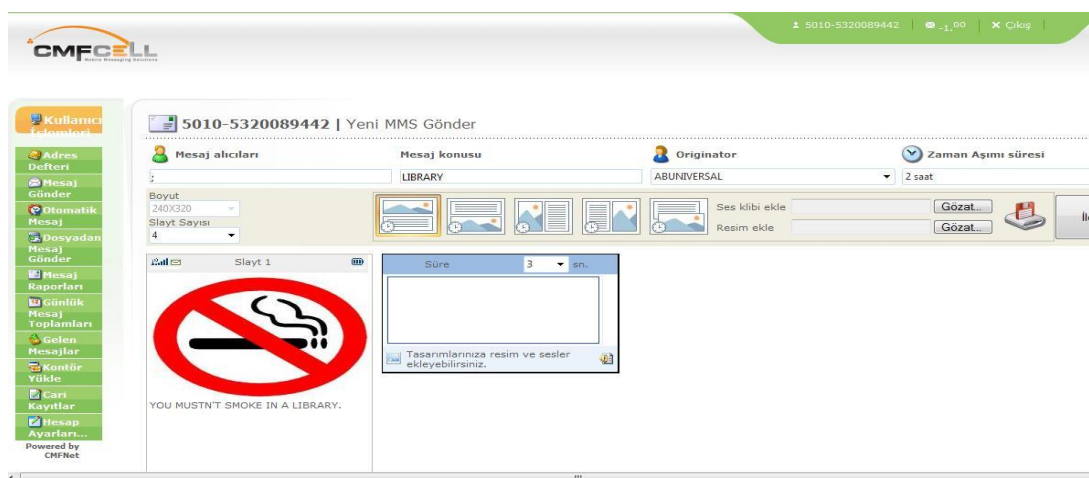


Figure 2 - A sample MMS preparation screen

Study Website

In order to ensure a delayed access to mobile supplementary messages, a website called “www.mobilinguaid.com” was created by the researcher, and at the end of each week, the contents of the messages sent during the previous week were uploaded to the website. Instructions for the participating students and EFL instructors at ADÜ YDYO were also posted on this website (see Appendix I). There was an unrestricted access to the website and the participants from the control group could also see the website. However, since the messages were uploaded at least one week after they were sent to the

participants' mobile phones, the website content was no longer serving as a means of "anytime and anywhere" supplementation. So, this situation did not undermine the study since it aimed to look at the effects of "anytime and anywhere" supplementation through MALL applications. Visiting the website, from this perspective, was equivalent to revising the class materials or learning online from any online educational resource. Finally, the participants could also report the problems they had with messages using the contact and feedback forms on the website.

Procedure

Upon completing necessary permission procedures with the YDYO administration and ADÜ Rector, and forming the experimental and control groups, the study called "MobilinguAid" was started at the beginning of the spring semester of the 2009-2010 academic year at ADÜ. Eight instructors who were teaching in two experimental group classes cooperated with the researcher during the eight weeks of the experiment. At the beginning of each week, and on weekdays if needed, the topics and units which had been covered previously or which were to be covered during the week were all learned from these eight cooperating instructors through informative e-mails, SMS messages or contact forms on the website (see Appendix H).

In light of the information received from ADÜ YDYO and from the coursebooks used at ADÜ YDYO, SMS and MMS messages were designed and created using the CMFCELL interface. Unlike previous studies (Lu 2008; Thornton & Houser, 2005), it was thought that sending the messages on set dates and at set time intervals would violate "*anytime and anywhere*" principle of mobile assisted language learning. The

messages were therefore sent to the participants in the experimental group on an irregular basis. In addition to this, some of the messages with more difficult content were sent more than once with the idea that multiple encounters with target contents enhance learning (Nation, 2001). Briefly, in this study, the students in the experimental group were sent supplementary mobile messages along with regular in-class supplementary materials such as worksheets, workbooks, CDs, and DVDs, whereas those in the control group used only the conventional supplementary materials.

A total of 39 SMS and 16 MMS messages were activated through the software purchased in this study. The number of messages sent each week fluctuated due to the feed received from ADÜ YDYO instructors during the study. Figure 4 shows the distribution of messages across the weeks.

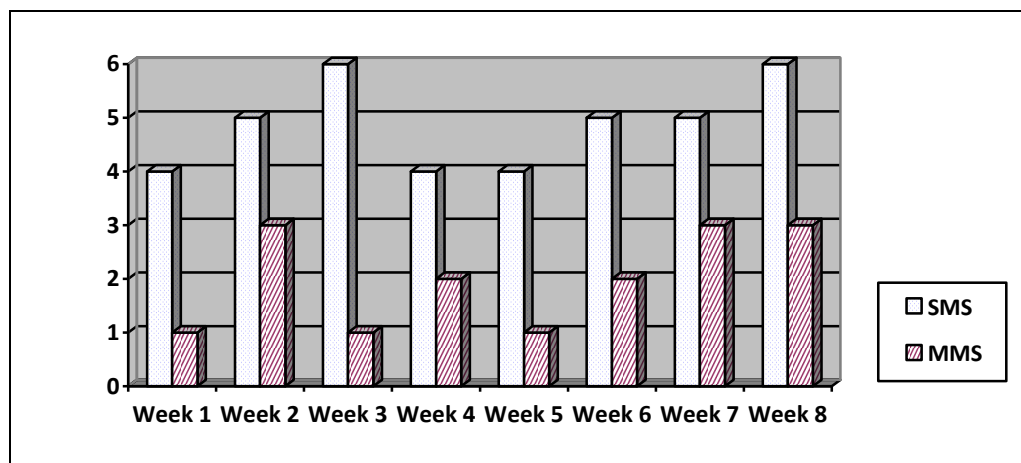


Figure 4 - Number of supplementary messages sent in each week

In the fourth and the eighth weeks of the study, official records of the students' achievement scores from the tests given during the MobilinguAid research were obtained from the Office of Student Affairs. These scores and the ones received at the

beginning of the semester were analyzed and compared using SPSS. Finally, at the end of the study, a post-treatment questionnaire exploring the attitudes of the participants towards using MALL applications like SMS and MMS messages in supplementing ELT coursebooks was given. In order to prevent biased responses, the questionnaire was given before the announcement of the last achievement scores at ADÜ YDYO. Lastly, it is important to note that the whole study was funded by the researcher without any external financial support and sponsorship.

Data Analysis

In this quasi-experimental study, quantitative analyses of the achievement tests' scores of the students were used to compare the initial and final levels of students' classroom achievement. Additionally, attitudes of the students towards using MALL applications as supplementary foreign language teaching materials were measured by using quantitative analyses of the data elicited through the post-questionnaire given at the end of the study. Finally, the open-ended questions in the questionnaire were qualitatively analyzed to explore prominent comments and attitudes of the participants.

Conclusion

This chapter presented a detailed picture of the methodology, the instruments, the participants and setting, and the procedure of the study by also providing rationale for using some particular instruments and methods. The results of the study and the analysis of the data will be provided in the next chapter in light of numerical data obtained through the measurements through achievement test scores and questionnaire responses.

CHAPTER 4: DATA ANALYSIS

Introduction

This study aims to investigate the effectiveness of mobile assisted language learning (MALL) applications in supplementing ELT coursebooks used in tertiary level English language learning. Effectiveness was evaluated according to the classroom achievement scores of the participants. In addition, the study attempts to explore the attitudes and behaviours of the participants towards using MALL applications as supplementary teaching materials in language learning. In this respect, two research questions were investigated in this quasi-experimental study:

- 1) What are the effects on Turkish EFL students' classroom achievement of using MALL as a supplementary learning material?
- 2) What are the attitudes of students towards using MALL as a supplementary learning material?

100 pre-intermediate level EFL students from four different classes at Adnan Menderes University, School of Foreign Languages (ADÜ YDYO) in Aydın took part in the study. Of these 100 participants, 50 were sent mobile SMS and MMS messages related to their in-class learning and coursebook content, and this group was used as the experimental group of the study. The other 50 students were left without any additional support apart from conventional supplementary materials like workbooks, worksheets, CDs, and DVDs. At the beginning of the study, participants' scores on three midterm

exams given in the fall term at ADÜ YDYO were used as pre-test scores in order to form equally balanced control and experimental groups. The study lasted for eight weeks in total, and in the fourth week of the experimental process, achievement tests' scores of the students were analysed to check whether there was an increase in their classroom achievement levels. In the eighth week, at the end of the experiment, another set of students' midterm scores were analysed and compared between the groups. Finally, a questionnaire exploring the participants' behaviours and attitudes towards using MALL applications as supplementary teaching materials was given.

Data Analysis Procedure

Pre- and post-tests were used to collect data about the classroom achievement levels of the participants in this study. These tests consisted of midterm examination scores which included all basic skills in English. Another tool used in this study was a questionnaire prepared and piloted by the researcher. For both research questions, quantitative data analysis procedures were followed and the data were statistically analysed using SPSS. The quantitative data analysis of the data collected in this study is presented in the following sections.

Results

The results of the study are analysed in three steps in this section. Before moving on to the steps of data analysis of pre-test and post-tests, it is important to note that Kolmogorov-Smirnov and Shapiro-Wilk tests indicated that the data in all the tests used were not normally distributed. Hence, nonparametric tests were used to analyse the data. Additionally, as two different sets of post-test scores were used in this study, the first set

of test scores received after four weeks will be called “post-test 1”. Likewise, the second set of scores which were received at the end of the study will be called “post test 2”. In the first of three steps of data analysis, overall differences between the control and the experimental groups in the three different tests will be investigated. Then, the difference between the groups in post-test 1 and post-test 2 will be analysed separately to gain a deeper insight into the changes during the experimental process.

The comparison of post-test scores between groups

Firstly, in order to present a general picture of the changes that occurred over the eight weeks of the treatment, descriptive results of both groups’ scores are shown in Figure 5.

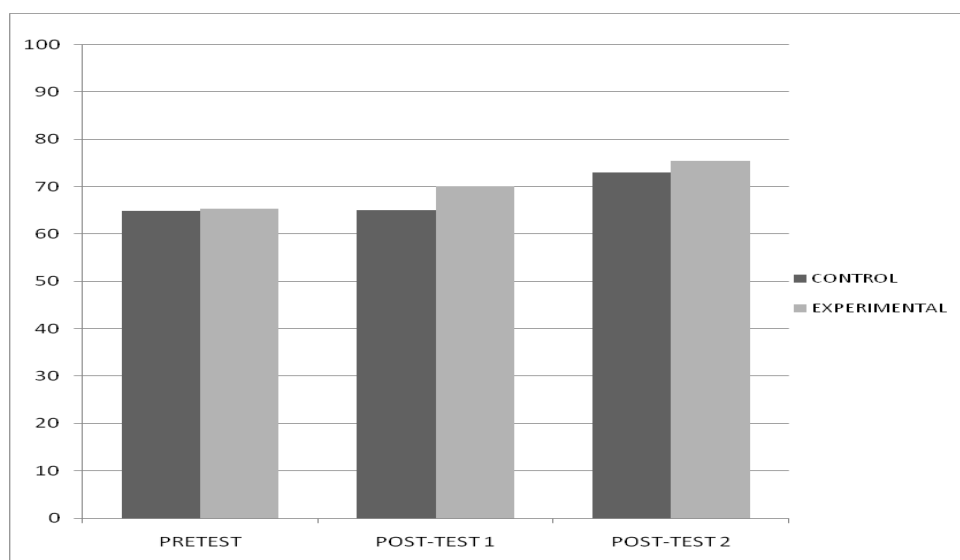


Figure 5 - Comparison of test scores between the experimental and control groups

In order to check whether the changes that occurred across the eight weeks were significant or not, Friedman ANOVA tests were performed and the findings revealed that the changes were significant in both the control group ($\chi^2 = 35.106, p < .001$) and the

experimental group ($\chi^2 = 32.134, p < .001$). In short, they suggested that both groups improved over time.

The Wilcoxon Signed-Ranks tests revealed that a significant change occurred between the pre-test scores ($Mdn = 65.33$) and post-test 1 ($Mdn = 70.00$) scores of the experimental group after four weeks ($T = 1753.00, p = .001, r = -.45$). However, there was not a similar significance between the pre-test ($Mdn = 64.83$) and post-test 1 ($Mdn = 65.00$) scores of the control group after four weeks ($T = 602.00, p > .05, r = .01$). The scores of the experimental group also increased significantly from post-test 1 ($Mdn = 70.00$) to post-test 2 ($Mdn = 75.50$), ($T = 475.50, p < .001, r = -.72$). Similarly, the control group's achievement scores increased significantly from post-test 1 ($Mdn = 65.00$) to post-test 2 ($Mdn = 73.00$), ($T = 475.50, p < .001, r = -.68$). The change in the control group was a radical one that needs to be investigated in detail.

After examining the changes in both groups over time, detailed comparisons of the achievement scores were made using Mann-Whitney tests. As shown in Figure 5, there was a similarity between the pre-test scores of the control group ($n = 50, Mdn = 64.83, SD = 13.643$) and the experimental group ($n = 50, Mdn = 65.33, SD = 13.637, U = 1236.50, p = .926$). However, after the first four weeks of the study, in post-test 1, the experimental group students did better ($n = 50, Mdn = 70.00, SD = 12.313$) than the students in the control group ($n = 50, Mdn = 65.00, SD = 12.438, U = 995.00, p < .05, r = -.17$). In the eighth week of the study, in post-test 2, both groups' scores increased and the control group ($n = 50, Mdn = 73.00, SD = 14.413$) showed a similar success to the experimental group ($n = 50, Mdn = 75.50, SD = 16.695$) and the difference between the groups was no longer significant ($U = 1165.00, p > .05, r = -.05$).

More light can perhaps be thrown on this issue if we consider the results of item Q32 from the questionnaire, which will be analyzed in detail in the following section. This indicated that six students did not read the messages sent during the MobilinguAid study (i.e. they responded with *not sure*, *agree*, or *strongly agree* to the statement “*I deleted the messages without reading them*”). A follow-up analysis was carried out, in which the test results of these students were excluded from consideration. In this way, only the results of the students who stated that they had read the supplementary messages were obtained. The findings of the original analysis, which included the scores of the non-readers, may represent real-life probabilities of the effectiveness of MALL supplementation as the students may not read the messages in real learning contexts, but another set of analyses with the scores of actual readers of messages would reveal more meaningful results in such a pilot study in a newly flourishing approach in ELT. For this reason, the scores of the actual readers were used and another set of analyses was done again in this section.

In order to see whether there was a change in the scores of both groups across the tests, another Friedman ANOVA test was performed and the results showed that the changes were significant both in the experimental group ($\chi^2 = 41.591$, $p < .001$) and in the control group ($\chi^2 = 35.106$, $p < .001$).

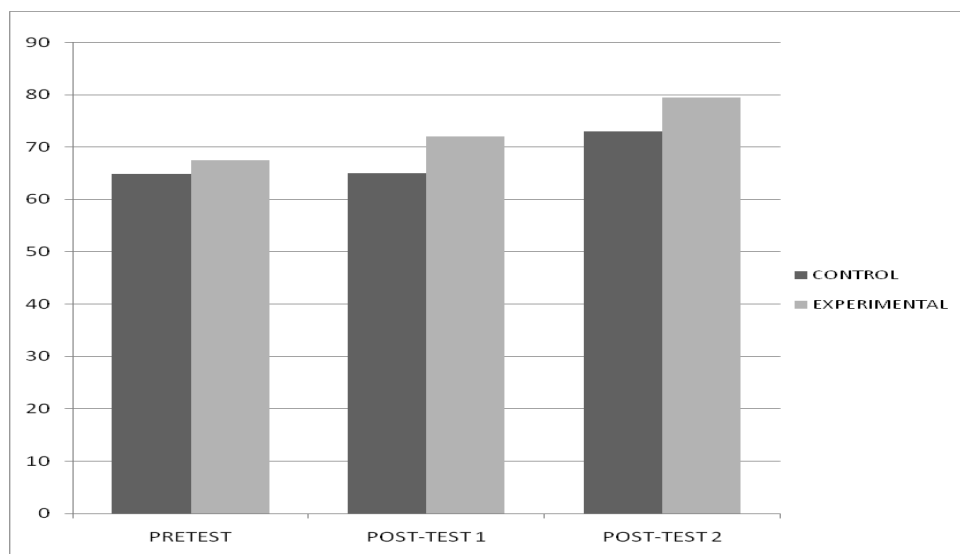


Figure 6 - Comparison of the actual readers' test scores between the experimental and control groups

Then, in order to see the changes from test to test, Wilcoxon Signed Ranks tests were employed. As shown in Figure 6, the results demonstrated that the change from pre-test ($Mdn= 67.50$) to post-test 1 ($Mdn= 72.00$) was significant in the experimental group ($T=209.50$, $p < .05$, $r = -.44$) in the second set of analyses. The increase in the experimental group from post-test 1 ($Mdn= 72.00$) to post-test 2 ($Mdn= 79.50$) was again statistically significant ($T= 100.50$, $p < .001$, $r = -.59$) (see Figure 6).

Finally, the test scores between the groups in each test were compared using Mann-Whitney tests to check where the difference between the groups occurred. In pre-test, the achievement scores of the experimental group ($Mdn= 67.50$) were close to those of the control group ($Mdn= 64.83$) and there was not a significant difference ($U= 971.0$, $p > .05$, $r = -.09$). In post-test 1, however, the experimental group ($Mdn= 72.00$) did significantly better than the control group ($Mdn= 65.00$), ($U= 727.00$, $p < .05$, $r = -.28$). Lastly, test results revealed another significant difference between the experimental

($Mdn= 79.50$) and the control group ($Mdn= 73.00$) in post-test 2 ($U= 882.50$, $p< .05$, $r= -.16$). These results altogether showed that in each post-test the experimental group students did significantly better than the students in the control group. Thus, this second set of analyses may serve as an indication of the contribution of MALL applications to the actual readers' achievement scores.

Analysis of the questionnaire items

The questionnaire items in this study were answered by the 50 participants who received regular SMS and MMS supplementary messages for eight weeks. The results were analysed using SPSS (Statistical Package for Social Sciences). Only the last section of the questionnaire was analysed qualitatively and the general opinions are classified and presented in this part.

The questionnaire consisted of seven sections:

- A) Demographic and background profile information
- B) General tendencies towards using mobile phones
- C) Attitudes towards the content of supplementary messages
- D) Attitudes towards mobile assisted language learning
- E) Comparison of attitudes towards SMS and MMS message types
- F) Attitudes towards the instructiveness of different content types
- G) Additional opinions and recommendations

Profile of the participants

Section A of the questionnaire revealed that there was a slight dominance of males in the population (60% male, 40% female). The majority of participants were aged between 18 and 20 (66%), while 34% were over 20.

The participants were also asked whether they had attended preparatory classes before coming to Adnan Menderes University in order to learn the amount of English they had been exposed to so far. The answers revealed that more than half of the participants (60%) did not attend preparatory classes in primary and secondary schools. For the majority of the participants in this study, it was therefore their first experience of learning English in the intense learning atmosphere of an English preparatory class.

Finally, the participants were asked whether they had received MMS (multimedia message service) messages during the MobilinguAid study and it was found that only 9 out of 50 students (18%) were able to receive MMS messages.

Tendencies towards and purposes of using mobile phones

In this section, the participants completed Likert-scale type items investigating their tendencies towards using mobile phones for different purposes. The items were categorized into three sub-sections: “the use of basic functions of mobile phones”, “the use of extra functions of mobile phones”, and “the use of mobile phones for educational purposes”.

Table 1 - Tendencies towards using basic functions of mobile phones

	Response	Frequency	Percent	Mean	Median	SD
Q1. I use my mobile phone to make and receive calls.	Never	0	0			
	Seldom	1	2			
	Sometimes	2	4			
	Frequently	22	44			
	Always	25	50			
	Total	50	100	4.420	4.500	.672
Q2. I use my mobile phone to send and receive messages.	Never	0	0			
	Seldom	1	2			
	Sometimes	4	8			
	Frequently	16	32			
	Always	29	58			
	Total	50	100	4.460	5.000	.734

Table 1 shows that the participants use their mobile phones' basic functions like making and receiving calls or sending and receiving messages with a high frequency. Ninety four per cent of them responded that they *frequently* or *always* use their mobile phones to make and receive calls, while 90% indicated that they *frequently* or *always* use them to send and receive messages. These findings suggest that there is a strong tendency towards using basic functions of telephones.

Table 2 - Tendencies towards using extra functions of mobile phones

	Response	Frequency	Percent	Mean	Median	SD
Q3. I listen to music with my mobile phone.	Never	1	2			
	Seldom	9	18			
	Sometimes	6	12			
	Frequently	22	44			
	Always	12	24			
	Total	50	100	3.70	4.00	1.092
Q4. I take photos and capture videos with my mobile phone.	Never	4	8			
	Seldom	6	12			
	Sometimes	17	34			
	Frequently	16	32			
	Always	7	14			
	Total	50	100	3.32	3.00	1.114
Q5. I use my mobile phone to play games.	Never	9	18			
	Seldom	19	38			
	Sometimes	14	28			
	Frequently	5	10			
	Always	3	6			
	Total	50	100	2.48	2.00	1.092
Q7. I use my mobile phone as a reminder.	Never	2	4			
	Seldom	18	36			
	Sometimes	15	30			
	Frequently	7	14			
	Always	8	16			
	Total	50	100	3.02	3.00	1.151
Q8. I use my mobile phone as an alarm clock.	Never	0	0			
	Seldom	0	0			
	Sometimes	3	6			
	Frequently	16	32			
	Always	31	62			
	Total	50	100	4.56	5.00	.611

As shown in Table 2, the participants were also given items exploring their use of mobile phones for daily, non-educational purposes. A very high percentage (94%) reported that they *frequently or always* use their mobile phones as an alarm clock whereas 56% of the students reported that they *seldom or never* play games with their mobile phones. Listening to music with the mobile phones was another popular use of

mobile phones, with 68% of the participants reporting that they *frequently* or *always* listen to music via their mobile phones.

Apart from basic functions of the mobile phones, educational uses were also investigated in Q6, Q9 and Q10. The findings showed that there were also students using their mobile phones to take photos and capture videos as well as those using the phones as a reminder of daily activities and tasks (see Table 2).

Table 3 - Tendencies towards using mobile phones for educational purposes

	Response	Frequency	Percent	Mean	Median	SD
Q6. I use my mobile phone as an electronic dictionary.	Never	26	52			
	Seldom	2	4			
	Sometimes	8	16			
	Frequently	6	12			
	Always	8	16			
	Total	50	100	2.36	1.00	1.587
Q9. I connect the Internet with my mobile phone.	Never	35	70			
	Seldom	8	16			
	Sometimes	6	12			
	Frequently	0	0			
	Always	1	2			
	Total	50	100	1.48	1.00	.862
Q10. I use my mobile phone for educational purposes.	Never	11	22			
	Seldom	17	34			
	Sometimes	13	26			
	Frequently	7	14			
	Always	2	4			
	Total	50	100	2.44	2.00	1.190

Unlike the responses to the items about the students' use of the basic functions of their mobile phones, the responses to Q6 in Table 3 depict that slightly more than half of the students (52%) *never* use their mobile phones as an electronic dictionary to learn the meanings of some new words. In addition to this, only 14% of the participants reported in Q9 that they connect to the Internet with their mobile phones, which may be a way of accessing online educational resources.

Similarly, the responses to Q10 show that 56% of the students in the experimental group do not use their mobile phones for educational purposes and 26% of them report that they sometimes use their mobiles for such purposes. In comparison to their tendencies towards using their mobile phones for daily uses as an MP3 player, an alarm clock, a camera and a game tool, the participants of the study had quite low tendencies towards using their mobile phones for any educational purpose.

Attitudes towards the contents of supplementary messages

The participants responded to items investigating their attitudes towards the content of the messages in this section. The items were mostly about the clarity of the messages and the teaching purposes of the messages, technical screening problems, and parallels between the message contents and coursebook contents.

Table 4 - Attitudes towards clarity and comprehensibility of the supplementary messages

	Response	Frequency	Percent	Mean	Median	SD
Q11. Messages sent were clear and understandable.	Strongly disagree	0	0			
	Disagree	0	0			
	Not sure	2	4			
	Agree	27	54			
	Strongly agree	21	42			
	Total	50	100	4.38	4.00	.567
	Response	Frequency	Percent	Mean	Median	SD
Q12. Teaching purposes of the messages sent were clear and understandable.	Strongly disagree	0	0			
	Disagree	0	0			
	Not sure	3	6			
	Agree	29	58			
	Strongly agree	18	36			
	Total	50	100	4.30	4.00	.580

The responses to Q11 (Table 4) indicate that there was a general agreement that the messages sent during the study were quite clear and understandable. 27 of 50

students *agreed* with this item and 21 of 50 similarly *strongly agreed*. Moreover, most of the respondents (94%) agreed or strongly agreed that the teaching purposes of the mobile supplementary messages were clear and understandable. Here, it is important to note that for both item Q11 and Q12, none of the respondents chose disagreement options.

Table 5 - Attitudes towards the clarity of the content supplemented through messages

	Response	Frequency	Percent	Mean	Median	SD
Q13. I did not have difficulty in understanding the content intended to be supplemented with the messages sent.	Strongly disagree	17	34			
	Disagree	23	46			
	Not sure	2	4			
	Agree	8	16			
	Strongly agree	0	0			
	Total	50	100	2.02	2.00	1.020

Students' responses to Q13 (Table 5) showed that many of them had difficulty in understanding which contents were intended to be supplemented with the messages sent during the eight weeks of study. This may be because of the fact that messages were perceived more as an independent learning tool and students did not try to relate them to the classroom and textbook content. It is worth noting, however, that the responses to Q13 contrast surprisingly with those to Q15 (see Table 7). On reflection, it appears that the wording of Q13 is somewhat ambiguous – potentially meaning either (the intended) “I understood which part of the course the messages intended to supplement” or “I understood the contents of the messages”. It may be therefore that participants did not understand this question in the way intended.

Table 6 - Technical problems in displaying the messages

	Response	Frequency	Percent	Mean	Median	SD
Q14. I experienced technical problems while displaying the messages.	Strongly disagree	31	62			
	Disagree	13	26			
	Not sure	1	2			
	Agree	4	8			
	Strongly agree	1	2			
	Total	50	100	1.62	1.00	1.007

Responses to Q14 revealed that only 10% of the students experienced technical problems while displaying the messages (Table 6). 1 student (2%) chose *not sure* for this item, and all the others (88%) reported that they did not experience any technical problems while displaying the messages. So, majority of the experimental group students received the messages without much trouble with screening.

Table 7 - Attitudes towards the similarity between the messages and the textbook contents

	Response	Frequency	Percent	Mean	Median	SD
Q15. Message contents were parallel with in-class teaching.	Strongly disagree	0	0			
	Disagree	1	2			
	Not sure	0	0			
	Agree	19	38			
	Strongly agree	30	60			
	Total	50	100	4.56	5.00	.611
	Response	Frequency	Percent	Mean	Median	SD
Q16. Message contents were the same as the contents of the textbooks (New English File) used.	Strongly disagree	0	0			
	Disagree	0	0			
	Not sure	3	6			
	Agree	19	38			
	Strongly agree	28	56			
	Total	50	100	4.50	5.00	.614

It can be seen in Table 7 that almost all of the students (98%) in the experimental group of MobilinguAid study thought that the supplementary messages were in parallel with their classroom learning content. Table 7 also indicates that there was no student

who thought the contents of the messages were different from the textbook contents.

38% of 50 respondents *agreed* and 56% of them *strongly agreed* with item Q16.

Q17 in the questionnaire explored opinions on the convenience of the messages for saving and reading again later in order to study English. There was a positive tendency in the responses of the participants and 38% of them chose *strongly agree* as well as other 44% who chose *agree* from the Likert scale options (see Table 8).

Table 8 - Attitudes towards the convenience of messages for reading again to study English

	Response	Frequency	Percent	Mean	Median	SD
Q17. Message contents were convenient for reading again later and studying English.	Strongly disagree	0	0			
	Disagree	1	2			
	Not sure	8	16			
	Agree	22	44			
	Strongly agree	19	38			
	Total	50	100	4.18	4.00	.774

In the last two items of this section, student attitudes towards supplementary messages' functionality as later practice or preparation tools for the classroom and textbook contents were investigated. Half of the respondents (48%) *agreed* that the messages functioned as practice tools for the topics covered before in class (Table 9). Likewise, 42% of them chose *strongly agree* for the statement in the item. These results indicate a strong agreement on the function of the supplementary messages as a practice tool for the previous learning.

In table 9 again, however, responses reveal that the participants do not have a similar tendency as Q18. Only 8% of them *strongly agreed* that the messages also served as a preparation for further in-class learning or for the contents of the coursebooks used in class. Thirty per cent of the students *disagreed* with this item while another 6%

strongly disagreed. For item Q19, there were 18 participants (36%) who remained neutral, which was an indication of hesitation.

Table 9 - Attitudes towards the functions of messages as preparation and practice tools

	Response	Frequency	Percent	Mean	Median	SD
Q18. Messages functioned as a practice of the topics covered in the textbooks.	Strongly disagree	0	0			
	Disagree	1	2			
	Not sure	4	8			
	Agree	24	48			
	Strongly agree	21	42			
	Total	50	100	4.30	4.00	.707
	Response	Frequency	Percent	Mean	Median	SD
Q19. Messages functioned as preparation for the topics and units to be covered later.	Strongly disagree	3	6			
	Disagree	15	30			
	Not sure	18	36			
	Agree	10	20			
	Strongly agree	4	8			
	Total	50	100	2.94	3.00	1.038

Attitudes towards mobile assisted language learning supplementation

In this section, the students were given items exploring their attitudes towards mobile assisted language learning applications as supplementary materials for textbooks and in-class learning. Reliability analyses using SPSS were performed for the items in this section and the items were classified into three categories: Q20, Q21, Q22 and Q29 (Cronbach Alpha= .783) were used to investigate the contribution of messages to students' learning, Q24, Q25, Q26, Q27 and Q28 (Cronbach Alpha= .793) were analysed to see affective functions and the effects of messages on students' motivation, and finally the items Q23, Q30, Q31 and Q32 (Cronbach Alpha= .783) were analysed together to check the negative attitudes of students towards the messages sent and the supplementation given through MALL applications. The items placed into each category are shown in Table 10.

Table 10 - Categories of attitudes towards MALL supplementation

Category	Items
The messages contributed considerably to my learning (Cronbach Alpha= .783)	Q20. Messages provided me with an opportunity to learn English outside the class as well. Q21. Messages made a significant contribution to my English learning. Q22. Messages contributed to my comprehension of the content of textbooks. Q29. Contents of the textbooks and in-class learning were successfully supplemented by supplementary mobile messages.
The messages made a positive effect on the students' motivation and encouragement (Cronbach Alpha= .793)	Q24. The messages I received affected my attitudes towards English positively. Q25. I found the messages I received interesting. Q26. I read the messages I received later again by saving them on my mobile phone. Q27. Receiving English supplementary messages made me happy. Q28. Receiving English supplementary messages encouraged me to study.
The students showed negative attitudes towards the messages sent and the supplementation given (Cronbach Alpha= .783)	Q23. I <u>did not</u> find the idea of learning English through messages realistic. Q30. Message contents were weak and boring in terms of instructiveness. Q31. Receiving English supplementary messages regularly made me bored. Q32. I deleted the messages without reading them.

Table 11 - Responses to the categories of attitudes towards MALL supplementation

ITEM GROUP	Response	Frequency	Percent
The messages contributed considerably to the students' learning (Q20,Q21,Q22,Q29)	Strongly disagree	3	1.5
	Disagree	12	6
	Not sure	31	15.5
	Agree	113	56.5
	Strongly Agree	41	20.5
	TOTAL	200	100
The messages had a positive effect on the students' motivation and encouragement (Q24,Q25,Q26,Q27,Q28)	Strongly disagree	9	3.6
	Disagree	15	6
	Not sure	55	22
	Agree	117	46.8
	Strongly Agree	54	21.6
	TOTAL	250	100
The students showed negative attitudes towards the messages sent and the supplementation given (Q23,Q30,Q31,Q32)	Strongly disagree	97	48.5
	Disagree	62	31
	Not sure	31	15.5
	Agree	9	4.5
	Strongly Agree	1	0.5
	TOTAL	200	100

Table 11 shows the summed responses to these sets of items. As can be seen in Table 11, in the first category, the contribution of supplementary messages to student learning was investigated and the results revealed that more than half of the participants (56.5%) agreed that messages contributed positively to their English language learning. When *agree* and *strongly agree* responses were counted together for these items, 77% of the responses were positive and this indicates that there is a generally positive attitude towards MALL's instructive effectiveness.

In the items of the second category presented in Table 11, the messages' effectiveness in motivating and encouraging the students was explored. Quite similar to the previous category, there was general agreement (68.4%) on the positive affective functions of the supplementary messages. However, 22% of the participants were neutral with regard to these items and 9.6% of the responses were negative.

In the last category of items in section D, negative attitudes towards MALL supplementation and MobilinguAid study were examined. 79.5% of the respondents *did not agree* with the negative attitude items in this category and this supported the idea that there was a positive attitude towards this new supplementation method. On the other hand, 5% of the responses *agreed* with the items of the category and showed negative attitudes towards MALL supplementation.

Item Q32 (*I deleted the messages without reading them*) in this section needs to be analysed separately as well since it investigated whether the students receiving the messages during the study read them or not (see Table 12). As this study investigates the effectiveness of MALL supplementation in helping the students achieve better in their

tests, it is important to learn whether they read the messages or not.

Table 12 - The percentages of the participants deleting the messages without reading them

	Response	Frequency	Percent	Mean	Median	SD
Q32. I deleted the messages without reading them.	Strongly disagree	42	84			
	Disagree	2	4			
	Not sure	4	8			
	Agree	2	4			
	Strongly agree	0	0			
	Total	50	100	1.13	1.00	.793

Responses show that most of the students read the supplementary messages they received during the project. On the other hand, there were some students (12%) who did not *strongly disagree* or *disagree* with the statement “*I deleted the messages without reading them*”. This finding suggests that these students did not actually read all of the messages and deleted some of them even without reading.

Comparison of attitudes towards SMS and MMS message types

This section in the questionnaire explored students’ attitudes towards the differences between plain SMS (short message service) and MMS (multimedia message service) messages. For this reason, only the students who received MMS messages were asked to respond to the items in this section (see Appendix B). Due to GSM operator problems and the telephone settings of the students, only 9 students responded to this section. Reliability tests revealed strong reliability (Cronbach Alpha= .936) among the items Q33, Q34, Q35, Q36 and Q37, which all explored the students’ opinions on the superiority of MMS messages over SMS messages in terms of instructiveness, interestingness, motivational power, and closeness to coursebooks’ contents. Other items in this section are analysed separately.

Table 13 - Comparison of attitudes towards SMS and MMS messages

ITEM GROUP and ITEMS	Response	Frequency	Percent
MMS messages were more instructive, more motivating, more interesting and closer to textbook content than the SMS messages. (Q33, Q34, Q35, Q36, Q37)	Strongly Disagree	0	0
	Disagree	8	17.7
	Not sure	16	35.5
	Agree	9	20
	Strongly Agree	12	26.6
	TOTAL	45	100
Q38. I would prefer to receive more MMS messages during the study.	Strongly Disagree	0	0
	Disagree	2	22.2
	Not sure	0	0
	Agree	3	33.3
	Strongly Agree	4	44.4
	TOTAL	9	100
Q39. The contents of SMS and MMS messages were alike.	Strongly Disagree	0	0
	Disagree	0	0
	Not sure	4	44.4
	Agree	3	33.3
	Strongly Agree	2	22.2
	TOTAL	9	100
Q40. There was no difference between MMS an SMS message types in terms of instructiveness.	Strongly Disagree	1	11.1
	Disagree	1	11.1
	Not sure	3	33.3
	Agree	3	33.3
	Strongly Agree	1	11.1
	TOTAL	9	100

The analysis of the item group in Table 13 shows that there was only one *strongly disagree* response to any of the items in this group. Additionally, the percentage of *disagree* responses in the sample group (n=9) was 17.7. On the other hand, *agree* and *strongly agree* responses to these items made up of 46.6 % of the responses. Surprisingly there were a total of 16 *not sure* responses (35.5%). This made clear that students had difficulty in comparing the MMS and SMS message types or they did not have strong feelings about the differences between them.

For item Q38 (whether they would prefer to receive more MMS messages during the study), the responses tended to be quite positive, and 77.7% of the responses either *agreed* or *strongly agreed*. Two out of nine students (22.2%) reported that they would not prefer to receive more MMS messages during the MobilinguAid study.

It is again seen in Table 13 that there was no negative response to Q39 which supported the idea that the contents of the MMS and SMS messages were not significantly different. Slightly more than half of the respondents (55.5%) thought that the message contents were alike while the other 44.4% said *not sure*.

Finally, for Q40, 22.2% of the respondents reported that there was a difference between SMS and MMS messages in terms of instructiveness, while 33.3% chose the *not sure* option. 44.4% of the students receiving both types of messages thought that there was not a big difference between the two types of messages in terms of instructiveness.

Attitudes towards the instructiveness of different content types

The items in this section were analysed descriptively in order to find out the students' opinions on the most instructive content types sent during the study. The students were given seven types of content that the supplementary messages included and they were asked to rank them from 7 to 1 according to their instructiveness. They were also informed that "7" stands for the highest contribution to achievement whereas "1" means the lowest contribution. Table 14 shows the order and the mean scores of each content type.

Table 14 - Participants' choices of the most popular message content types

	N	Mean	Std. Deviation
C1. Messages including new words and their meanings	50	5.54	2.05
C2. Messages including new phrasal verbs and their meanings	50	4.90	1.79
C3. Messages which exemplify new grammar structures	50	4.32	1.73
C7. Messages explaining grammar rules	50	3.90	1.99
C5. Messages titled "Did you know?"	50	3.82	2.11
C4. Messages describing and talking about famous people or figures	50	3.40	2.10
C6. Contents of the messages titled "Today in History"	50	3.04	1.63

Table 14 demonstrates that the most popular message content in terms its effectiveness in teaching and supplementation was the one which included new words and their meanings (C1) ($N= 50, M= 5.54, SD= 2.05$). The second content type was again related to vocabulary and students favoured “phrasal verbs and explanations” messages (C2) as one of the most instructive message contents ($N= 50, M=4.90, SD=1.79$). On the other hand, the least popular message content type in terms of instructiveness was “Today in History” titled message content (C6), which explained some important events in history by integrating grammar structures and vocabulary patterns in context ($N= 50, M=3.04, SD= 1.63$). When the results are taken into account, it can be inferred that the students found the messages containing vocabulary patterns like words, phrases and phrasal verbs most effective and most instructive among all types of contents sent.

Additional opinions and recommendations on the study

In this section, the participants were asked to express their additional opinions and recommendations about the study and the messages sent. The students wrote their comments in Turkish and they were translated into English for the analyses. Comments from the participants tended to be mostly positive and focused particularly on the instructional and motivational value of such supplementation.

“Thanks to these messages, I learned lots of new things. Along with this, it was also a nice and useful study in terms of practising what we learned. I think that it contributed to my achievement and motivated me.”

The quotation above represents one of the general opinions of the participants responding to section G in the questionnaire. In almost all of the responses, there were

positive thoughts about the contribution of the supplementary messages to students' language learning.

Another statement frequently found in this section was "*I wish the messages were also sent in summer after the school*" (reported 11 times). The students also wanted the supplementary messages to be sent to all other classes at ADÜ YDYO and to be a part of the teaching program there.

There were also opinions complaining about the duration of the study as some of the students thought that it was not a long process and they said "*There could be more messages sent for a longer period of time.*" Although mobile supplementation was favoured by many students, there were also criticisms about the numbers of the messages sent and they expressed that more messages could have been sent during the study. In addition, they also thought that it was a relatively new application in language teaching and needed to be developed more in time.

It was a beneficial project but it should be developed as much as possible to make it more useful. It functioned as a supplementation of what we learned in class. Meanwhile, new messages and their meanings helped me recall or learn them. However, I think more messages could have been sent. It would have been more helpful to us then.

Some of the comments, similarly, focused on the comparison between SMS and MMS message types and some participants preferred receiving more MMS messages.

It was a very nice and original study. I wish there had been more MMS messages during the study.

All in all, the students' comments tended to be mostly positive and some of them even stated that they will not delete these messages and they will practise from time to time by reading these messages:

Since the messages containing new words and their meanings, and the ones about famous people or places were very interesting, I read all of them and I even saved and read them again later. They served as good examples of usages. I looked forward to receiving new messages. It was nice that there was no boring content. I think it could have been better if one or more messages a day were sent.

Conclusion

This study investigated the effectiveness of MALL applications in supplementing ELT coursebooks in preparatory classes and the attitudes of students towards such supplementation. The results revealed that the achievement scores of the students receiving MALL supplementation through SMS and MMS messages showed a constant increase whereas those of the control group students did not show such a constant increase. Similarly, the students in the experimental group did better than the students in the control group in the post-tests given during the study. Furthermore, the responses to the post-treatment questionnaire revealed positive attitudes towards MALL supplementation in language learning.

In the next chapter, the findings of this study will be discussed in relation to the findings of the previous research. In addition to this, pedagogical implications of the study, limitations of the study, and suggestions for further research will be provided in the following chapter.

CHAPTER 5: CONCLUSION

Overview of the Study

This study investigated the effectiveness of mobile assisted language learning (MALL) applications in supplementing English language learning coursebooks at tertiary level. Additionally, the attitudes of the students towards coursebook supplementation through MALL applications were explored. The participants in this eight-week study were a total of 100 pre-intermediate level English preparatory class students from four different classes in the School of Foreign Languages at Aydın Adnan Menderes University (ADÜ YDYO). The classes were placed into experimental and control groups and quantitative data from achievement examinations at ADÜ YDYO were collected after the fourth and the eighth weeks. In order to elicit the students' attitudes towards supplementing ELT coursebooks through MALL applications, a questionnaire prepared by the researcher was administered at the end of the study. Qualitative data from the open-ended section in the questionnaire were also analyzed to explore the participants' attitudes. The research questions addressed were:

1. What are the effects on Turkish EFL students' classroom achievement of using MALL as a supplementary learning material?
2. What are the attitudes of students towards using MALL as a supplementary learning material?

This chapter will discuss the results of the experiment carried out during the eight weeks of the study and the questionnaire given at the end of the experimental process. After the discussion of the findings, pedagogical implications and limitations of the study will be explained and suggestions for further research will be provided.

Discussion of the Results

The effects of MALL supplementation on students' achievement scores

In order to investigate the effects of MALL supplementation on students' success, the achievement scores of the students in post-test 1 and post-test 2 were analyzed quantitatively. Statistical analyses of the data from post-test 1 scores at the end of the first four weeks revealed that MALL supplementation had a significantly positive impact on the experimental group students' achievement scores, whereas almost no change was observed in the control group students' scores. These findings supporting the effectiveness of mobile supplementation (Belanger, 2005; Thornton & Houser, 2005; Kennedy & Levy, 2008; Lu, 2008; Kukulska-Hulme, 2009) were parallel with previous mobile assisted language learning studies. However, the analysis of the post-test 2 scores at the end of eight weeks showed that both groups' scores increased and there was not a significant difference between the experimental and the control groups. The increase in the experimental group was a steady one observed in both post-tests. Yet, it was surprising that the control group scores also increased sharply in the post-test 2 given at the end of the study. This situation may result from several reasons. Firstly, it is quite clear that there was a change in post-test 2 and most of the students in both the experimental and control groups did better on it. One explanation for this may have been

that the second achievement test given at ADÜ was a relatively easier one. Another reason may be that the novelty of MALL supplementation increased students' motivation and excitement in the experimental group and their scores increased sharply in the first four weeks. Nevertheless, the increase between week four and week eight was not a similar one as the excitement factor diminished in the second half of the study. This finding may well be an indication of the importance and positive effects of excitement that MALL applications create. Finally, it is also possible to assume that even if it had some positive effect on students' achievement, MALL supplementation did not actually make a significant difference between the groups in the end, and the findings may be interpreted as parallel with the results of Corlett *et. al.*'s study (2005) which suggests certain MALL applications may not function as effective tools of language learning.

It should, however, be noted that the difference between post-test 2 scores of the groups was also significant when the scores of the actual readers of the messages in the experimental group were analyzed. In this respect, the findings of this second data analysis with the actual readers correspond to previous research (Lu, 2008), which reveals that there is a correlation between message reading frequency and learning. It is also an undeniable fact that there may be students who ignore supplementary messages in real learning contexts. However, in order to evaluate the effectiveness of MALL supplementation in students' achievement, this second analysis using the scores of the actual message readers may provide valuable insight.

General tendencies in students' mobile phone use

Participant responses to the questionnaire given at the end of the study revealed that most of the students do not use their mobile phones for educational purposes, which was also similar with the findings of Pettit and Kukulska-Hulme (2007). There was a greater tendency towards using mobile phones as MP3 players and video cameras than utilizing them as electronic dictionaries for learning new vocabulary. Unlike the findings of Thornton and Houser's study (2005) conducted in Japan, the questionnaire responses indicated that only a few students connected to the Internet with their mobile phones. This difference between the findings can best be explained by the technological developments in the countries and the socio-economic status of the participants. In this sense, receiving mobile supplementary messages was a novel experience for the participants in the study.

Attitudes towards message contents

The attitudes of the students towards the supplementary messages were explored by analyzing the questionnaire items aiming to uncover the students' opinions and feelings about the message contents, motivational effects of the messages, fun factor in the messages, and the differences between SMS and MMS messages.

Findings suggested that the participants found vocabulary related contents the most instructive and successful of all content types the messages contained. This particular finding is also supported by previous studies (Thornton & Houser, 2005; Cavus & Ibrahim, 2007; Saran, Seferoglu & Cagiltay, 2009; Stockwell, 2007; Kennedy & Levy, 2008; Lu, 2008), which reported that MALL applications contribute positively

to vocabulary learning. On the other hand, there were responses to open-ended section in the questionnaire reporting that the messages titled “Today in History”, “Famous People and Figures”, and “Did You Know?” were also quite interesting and enjoyable.

The foremost function of the messages in this study was to supplement ELT coursebooks used in regular classes. From this perspective, attempts were made to ensure that the message contents would match with the coursebook contents. Questionnaire findings showed that students thought there was such a similarity between the contents of the supplementary messages and the coursebooks. In addition to this, students also reported that message contents were parallel with in-class learning. This was mostly because of the fact that the coursebooks are the most important teaching resources at Adnan Menderes University School of Foreign Languages. So, it is not surprising that the students found message contents very similar to in-class learning contents.

Participants also indicated that the messages function more as practice tools to review previously learned content rather than preparation for upcoming topics and structures. As the messages were prepared according to the feedback received from ADÜ YDYO instructors, I had no opportunity to prepare preparative messages without such feedback from my colleagues. Hence, though consistent with previous research (Thornton and Houser 2002, cited in Chinnery, 2006) which clearly indicates that mobile phones are especially useful for reviewing and practising content, this finding may be seen as a limitation of the current study as one of the aims of the messages was to prepare students for the upcoming topics and forms to be covered. Since the messages

provided the participants with a good opportunity to practice, students also reported that they saved the messages and read them later to study English (Kennedy & Levy, 2008). On the other hand, a number of participants expressed that they had difficulty in understanding which contents of their coursebooks were supplemented with the messages. Such difficulty is likely to result from the time intervals between the regular classes in which specific contents are covered and the activation of related messages.

Attitudes towards mobile supplementation of coursebooks

In light of the responses to the items in Section D of the questionnaire, which specifically explored the attitudes of the participants towards MALL supplementation for ELT coursebooks and in-class learning, it can be inferred that there is a common view that the supplementary messages served as successful learning tools. The participants especially favored the messages as out-of-class learning tools and in this sense the messages fulfilled their function of enhancing “anytime and anywhere” learning. Besides, the participants also found coursebook supplementation through MALL applications highly motivating to study English. It was a unique experience for the participants and they found the messages both entertaining and instructive. These positive attitudes match with the literature (Kennedy & Levy, 2008; Nah, White & Sussex, 2008; Stockwell, 2008; Todd & Tepsuriwong, 2008) except for research (Corlett *et al.* 2005) suggesting that the students do not perceive MALL applications as an effective means of learning.

Though few, there were also students reporting that they found the messages boring, and that they do not agree with the idea of learning through supplementary

messages. Such negative attitudes may be either because of the quality of the messages sent or because of these students' general attitudes towards English as a foreign language. Similarly, findings showed that there were a few students who deleted the messages without even reading them when they saw the originator name of the study on the screen. This may be an indication of these students' negative attitudes towards learning and English language. A deeper analysis of the achievement scores of the owners of such negative responses also proved that some of these students had already dropped out and gave up putting effort into learning English.

Responses also demonstrated that the students had more positive attitudes towards MMS messages in terms of their contribution to the students' motivation. Colorful explanations of target contents accompanied by visuals and audio content were found more interesting and more motivating by the participants. Surprisingly, however, they did not report any difference between SMS and MMS messages in terms of their instructiveness. It can be assumed that this is mostly because of the fact that the contents were quite similar in both types. Yet, it is important to note that there were few participants receiving MMS messages and it shows that, unlike the students in technologically developed countries, Turkish students do not make use of some sophisticated functions of their mobile phones. Since there were few students receiving MMS messages in the study, the attitudes towards supplementary MMS messages in particular, may not be as generalizable as expected. However, they can still give an idea about the students' opinions about the differences between SMS and MMS messages as supplementary materials.

Pedagogical Implications of the Study

The results of this study suggest that mobile assisted language learning (MALL) applications such as mobile phone messages may serve as effective supplementary materials for coursebooks in English preparatory classes. Being a relatively new approach, MALL may have stronger effects on learning if proper pedagogy (Abdous *et. al.*, 2009) is used. Supplementary messages can especially be used to support the students with new vocabulary in educational settings. It would not be fair to claim that MALL can be used to develop all basic skills in English language learning with the current technologies commonly in use in Turkey. For example, it is quite difficult to develop writing skills because of the tools' tiny screens and virtual keyboarding functions (Chinnery, 2006). However, it can still be inferred from the results that MALL can be a successful learning and supplementation tool even with simple applications like SMS and MMS messages. It would also be safe to say that such supplementary messages would be more effective in supporting coursebook content if they were prepared by professionals in the field of educational technologies.

Current findings also ascertain that MALL supplementation has positive effects on students' motivation for learning English. Maintaining the motivation of students who are exposed to an intensive process of English language education for a whole year is a difficult task for the teachers and the administrators in English preparatory schools. Hence, stakeholders in EFL education may consider integrating some available MALL applications like mobile messages into their curriculum. Likewise, coursebook

publishers may also consider integrating mobile supplementation into their coursebook packages.

Additionally, this study revealed a sharp increase in the achievement scores of the participants in the experimental group until the fourth week. After the fourth week, the increase was not as sharp as before, and this may be explained with the effect of novelty and excitement factors that motivated students at the beginning of the study. So, more successful results may be ensured if motivation in MALL use is maintained over time by using interesting, entertaining, and exciting message contents and designs.

Another important finding of the current study is that the students did not report much difference between MMS and SMS type of messages in terms of instructiveness. However, in the open-ended section of the questionnaire, they mentioned some advantages of MMS messages over SMS messages in terms of visual representations, motivational power, and interestingness. In this sense, if students are appropriately guided to install MMS settings on their mobile phones, more students can be sent MMS messages which enable the sender to integrate text, visuals and audio content in a single message. Thus, their motivation and interest in learning through MALL may be increased and more successful outcomes may be attained.

Limitations of the Study

Due to its being a new approach in English language teaching, being one of the first studies on such novel supplementation for ELT coursebooks, this study has several limitations.

First of all, the researcher was not teaching in the study setting during the experimental process and all the supplementary messages were prepared and activated in the light of the feedback received from the instructors teaching in experimental group classes. This situation caused communication problems especially when the instructors were very busy with their own teaching or preparing and grading examinations at ADÜ YDYO. In such times, feedback from cooperating instructors was often delayed and it caused fluctuations in the numbers of messages sent each week. Another limitation of the study was the limited number of participants. More generalizable results could be attained if the research was conducted with more participants in more than one setting. Additionally, purchasing the bulk messaging software and message packs from the GSM operators caused financial difficulties. Lastly, although the students reported that their mobile phones supported MMS message function, only nine of them could actually receive MMS messages during the study. More participants using their mobile phones' MMS functions can be included in such studies in order to find out more reliable and generalizable results about the effectiveness of MMS messages in particular.

Suggestions for Further Research

Taking the limitations of this study into consideration and keeping in mind that MALL is a new and developing field to be explored in the modern age of technology, a similar study in more than one university and with more participants can be carried out. As distance cooperation between the teachers and the researcher may cause problems for both parties, the teachers should be enabled to create and activate their own message content to supplement the coursebooks they use in classes. Time intervals between in-

class teaching and mobile supplementation may also be shortened in that way and the students can easily figure out which content is supplemented in each message.

Additionally, taking financial difficulties of conducting such research into consideration, another similar study may be done with financial support from governmental institutions and sponsorship from educational firms or coursebook publishers.

Finally, similar supplementation studies may be conducted with other MALL devices and applications like Personal Digital Assistants (PDAs), iPods, simple portable music players, and Smartphones. Since the use of MALL in educational settings Turkey is an onerous task which also necessitates huge financial investment, such research is needed to verify the findings of previous studies and make sure that it is worth investing in such a novel approach in language teaching.

Conclusion

This study investigated the effectiveness of mobile assisted language learning (MALL) applications in supplementing English language teaching coursebooks in preparatory schools. Additionally, it aimed to explore the attitudes of the students towards the supplementation of coursebooks through MALL applications.

The results suggested that MALL supplementation has significantly positive effects on the achievement scores of the students in the short term which may well be due to excitement factor. Although the effect was not that significant in the long term, the findings still showed that there was a positive inclination in the scores of the MALL

users in the long term. Another finding of the study is that MALL supplementation makes a significant contribution to the English language achievement of actual readers of the messages. In addition to this, participants demonstrated positive attitudes towards MALL supplementation for their coursebooks and in-class learning.

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APPENDICES

Appendix A: Consent form

Dear colleagues and students,

I am currently enrolled in the MA TEFL Program at Bilkent University. The aim of my research study is to investigate the effectiveness of Mobile Assisted Language Learning (MALL) as a supplementary learning material for English language teaching coursebooks. I am also exploring the attitudes of students towards the use of MALL applications as supplementary materials. Then, during the experiment, the participants in two classes will be sent SMS and MMS messages in order to support the students' classroom learning. Finally, an achievement test and a post-questionnaire will be given to check the participants' ultimate levels of achievement and to elicit attitudes towards learning with MALL applications. All the contacts, questionnaire findings, and personal information in this study will be kept strictly confidential in my reports.

If you have any questions, please do not hesitate to contact me or my thesis advisor, Assist. Prof. Dr. Philip Durrant.

Thank you in advance for your help and cooperation.

Hüsem Korkmaz

MA TEFL

Bilkent University, Ankara

husem@bilkent.edu.tr

Assist. Prof. Dr. Philip Durrant

MA TEFL

Bilkent University, Ankara

durrant@bilkent.edu.tr

I have read the above information. I hereby give my consent for the data acquired to be used by Hüsem Korkmaz in this survey.

Name:

Date:

Signature:

Appendix B: Student attitudes and behaviours questionnaire

Dear Participant,

This questionnaire investigates the attitudes and behaviours of tertiary level English preparatory class students towards supplementary mobile SMS and MMS messages which were sent as part of MobilinguAid study conducted in MA TEFL Program at Bilkent University. Questionnaire findings will only be used for research and development purposes.

Thanks in advance for your contribution.

Hüsem Korkmaz

husem@bilkent.edu.tr

A) Please choose the most appropriate alternative for you.

1) Gender:

a) Male

b) Female

2) Age:

a) Under 18

b) 18-20

c) Over 20

3) Department:

4) Did you attend English preparatory classes before the university education?

a) Yes

b) No

5) Have you received MMS (multimedia message service) messages as part of the MobilinguAid study?

a) Yes

b) No

B) This section includes questions exploring your general tendencies and attitudes towards using mobile phones.	Never	Seldom	Sometimes	Frequently	Always
1. I use my mobile phone to make and receive calls.	1	2	3	4	5
2. I use my mobile phone to send and receive messages.	1	2	3	4	5
3. I listen to music with my mobile phone.	1	2	3	4	5
4. I take photos and capture videos with my mobile phone.	1	2	3	4	5
5. I use my mobile phone to play games.	1	2	3	4	5
6. I use my mobile phone as an electronic dictionary.	1	2	3	4	5
7. I use my mobile phone as a reminder.	1	2	3	4	5
8. I use my mobile phone as an alarm clock.	1	2	3	4	5
9. I connect the Internet with my mobile phone.	1	2	3	4	5
10. I use my mobile phone for educational purposes.	1	2	3	4	5
C) This section includes questions about the supplementary messages and their contents which were sent to you during the MobilinguAid study.	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
11. Messages sent were clear and understandable.	1	2	3	4	5
12. Teaching purposes of the messages sent were clear and understandable.	1	2	3	4	5
13. I <u>did not</u> have difficulty in understanding the content intended to be supplemented with the messages sent.	1	2	3	4	5
14. I experienced technical problems in displaying the messages.	1	2	3	4	5
15. Message contents were in parallel with in-class teaching.	1	2	3	4	5
16. Message contents were the same as the contents of the textbooks (New English File) used.	1	2	3	4	5
17. Message contents were convenient for reading again later and studying English.	1	2	3	4	5

18. Messages were kind of practice for the topics covered in the textbooks.	1	2	3	4	5
19. Messages were kind of preparation for the topics and units to be covered later.	1	2	3	4	5

D) This section includes questions exploring your attitudes and behaviours towards supplementing in-class English language learning through mobile SMS and MMS messages.	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
20. Messages provided me with an opportunity to learn English outside the class as well.	1	2	3	4	5
21. Messages made a significant contribution to my English learning.	1	2	3	4	5
22. Messages contributed to my comprehension of the content of textbooks.	1	2	3	4	5
23. I <u>did not</u> find the idea of learning English through messages realistic.	1	2	3	4	5
24. The messages I received affected my attitudes towards English positively.	1	2	3	4	5
25. I found the messages I received interesting.	1	2	3	4	5
26. I read the messages I received later again by saving them on my mobile phone.	1	2	3	4	5
27. Receiving English supplementary messages made me happy.	1	2	3	4	5
28. Receiving English supplementary messages encouraged me to study.	1	2	3	4	5
29. Contents of the textbooks and in-class learning were successfully supplemented by supplementary mobile messages.	1	2	3	4	5
30. Message contents were weak and boring in terms of instructiveness.	1	2	3	4	5
31. Receiving English supplementary messages regularly made me bored.	1	2	3	4	5
32. I deleted the messages without reading them.	1	2	3	4	5

E) The items between 33 and 40 will <u>only</u> be answered by the participants <u>who received MMS (multimedia)</u> messages during the study.	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
33. When compared to SMS messages, MMS (multimedia) messages were more effective in supplementing my English learning.	1	2	3	4	5
34. When compared to SMS messages, MMS messages were more interesting.	1	2	3	4	5
35. MMS messages were more motivating than SMS messages.	1	2	3	4	5
36. MMS message contents were closer to those of textbooks' than the contents of SMS messages.	1	2	3	4	5
37. MMS messages were more informative than SMS messages.	1	2	3	4	5
38. I would prefer to receive more MMS messages during the study.	1	2	3	4	5
39. The contents of SMS and MMS messages were alike.	1	2	3	4	5
40. There was no difference between MMS an SMS message types in terms of instructiveness.	1	2	3	4	5

F) Rank the message content types from 1 to 7 according to their contribution to your English language learning. (1= the most, 7= the least)

- _____ Messages including new words and their meanings
- _____ Messages including new phrasal verbs and their meanings
- _____ Messages which exemplify new grammar structures
- _____ Messages describing and talking about famous people of figures
- _____ Messages titled "Did you know?"
- _____ Contents of the messages titled "Today in History"
- _____ Messages explaining grammar rules

G) Please express your thoughts and recommendations about the MobilinguAid study you participated in.

Appendix C: Öğrenci tutum ve görüş anketi

Sayın katılımcı,

Bu çalışma Bilkent Üniversitesi, Yabancı Dil Olarak İngilizce Öğretimi Yüksek Lisans Programı (MA TEFL) bünyesinde üniversite hazırlık sınıfı öğrencilerinin MobilinguAid çalışması kapsamında gönderilen mobil tabanlı dil öğrenimi destek SMS ve MMS mesajlarına karşı tutum ve düşüncelerini incelemektedir. Anket bulguları yalnızca bilimsel araştırma ve geliştirme amaçları ile kullanılacaktır.

Katkılarınız için şimdiden teşekkürler.

Hüsem Korkmaz

husem@bilkent.edu.tr

A) Lütfen sizin için en uygun seçeneği işaretleyiniz.

1) Cinsiyetiniz:

a) Bay

b) Bayan

2) Yaşınız:

d) 18 yaş altı

e) 18-20

f) 20 yaş üstü

3) Bölümünüz:

4) Üniversite öğreniminiz öncesinde İngilizce hazırlık eğitimi aldınız mı?

b) Evet

b) Hayır

5) MobilinguAid çalışması kapsamında MMS (multimedya mesaj servisi) mesajı aldınız mı?

b) Evet

b) Hayır

B) Bu bölümde cep telefonu kullanımınıza dair genel eğilim ve tutumlarınızı inceleyen sorular bulunmaktadır.	Hiçbir zaman	Nadiren	Bazen	Sıklıkla	Her zaman
1. Cep telefonumu arama yapmak ve cevaplamak için kullanıyorum.	1	2	3	4	5
2. Cep telefonumu mesaj göndermek ve almak için kullanıyorum.	1	2	3	4	5
3. Cep telefonumla müzik dinliyorum.	1	2	3	4	5
4. Cep telefonumla fotoğraf ve video çekiyorum.	1	2	3	4	5
5. Cep telefonumu oyun oynamak için kullanıyorum.	1	2	3	4	5
6. Cep telefonumu elektronik sözlük olarak kullanıyorum.	1	2	3	4	5
7. Cep telefonumu hatırlatıcı olarak kullanıyorum.	1	2	3	4	5
8. Cep telefonumu çalar saat olarak kullanıyorum.	1	2	3	4	5
9. Cep telefonumla internete bağlanıyorum.	1	2	3	4	5
10. Cep telefonumu eğitsel amaçlar için kullanıyorum.	1	2	3	4	5
C) Bu bölümde MobilinguAid çalışması kapsamında sizlere gönderilen destek mesajları ve içerikleri hakkında sorular bulunmaktadır.	Kesinlikle katılmıyorum	Katılmıyorum	Kararsızım	Katılıyorum	Kesinlikle katılıyorum
11. Gönderilen mesajlar açık ve anlaşılırdı.	1	2	3	4	5
12. Gönderilen mesaj içeriklerinin öğretim amacı açık ve anlaşılırdı.	1	2	3	4	5
13. Gönderilen mesajlarda desteklenmek istenen içeriği anlamakta zorlanmadım.	1	2	3	4	5
14. Gönderilen mesaj içeriklerini görüntülemeye teknik aksaklıklar yaşadım.	1	2	3	4	5
15. Mesaj içerikleri sınıf içi öğretimle paralel nitelikteydi.	1	2	3	4	5
16. Mesaj içerikleri kullanılan ders kitaplarıyla (New English File) aynıydı.	1	2	3	4	5
17. Mesaj içerikleri daha sonra da okuyup İngilizce çalışmama uygundu.	1	2	3	4	5
18. Mesajlar ders kitaplarında işlenen konuların tekrarı niteliğindedi.	1	2	3	4	5

19. Mesajlar daha sonra işlenecek olan konu ve ünitelerin hazırlığı niteliğindedir.	1	2	3	4	5
---	---	---	---	---	---

D) Bu bölümde mobil SMS ve MMS mesajları ile sınıf içi İngilizce öğreniminizin desteklenmesine yönelik tutum ve görüşlerinize dair sorular bulunmaktadır.	Kesinlikle katılmıyorum	Katılmıyorum	Kararsızım	Katılıyorum	Kesinlikle katılıyorum
20. Mesajlar bana sınıf dışında da İngilizce öğrenme fırsatı sundu.	1	2	3	4	5
21. Mesajlar İngilizce öğrenmeme önemli ölçüde katkıda bulundu.	1	2	3	4	5
22. Mesajlar ders kitaplarının içeriğini anlama ve öğrenmeme katkıda bulundu.	1	2	3	4	5
23. Mesajlarla İngilizce öğrenme fikrini gerçekçi bulmadım.	1	2	3	4	5
24. Telefonuma gelen mesajlar İngilizceye karşı tutumumu olumlu etkiledi.	1	2	3	4	5
25. Telefonuma gelen mesajları ilgi çekici buldum.	1	2	3	4	5
26. Telefonuma gelen mesajları kaydederek daha sonra da okudum.	1	2	3	4	5
27. İngilizce destek mesajları almak beni mutlu etti.	1	2	3	4	5
28. İngilizce destek mesajları almak beni ders çalışmaya teşvik etti.	1	2	3	4	5
29. Ders kitaplarındaki konular ve sınıf içi öğrenmemiz destek mesajlarıyla başarılı şekilde desteklendi.	1	2	3	4	5
30. Mesaj içerikleri öğreticilik bakımından zayıf ve sıkıcıydı.	1	2	3	4	5
31. Sürekli İngilizce destek mesajları almak beni sıktı.	1	2	3	4	5
32. Mesajları okumadan sildim.	1	2	3	4	5

E) 33-40 arası sorular yalnızca çalışma süresince MMS (multimedya) mesajları alan katılımcılar tarafından cevaplanacaktır.	Kesinlikle katılmıyorum	Katılmıyorum	Kararsızım	Katılıyorum	Kesinlikle katılıyorum
33. MMS (multimedya) mesajları SMS mesajlarına kıyasla İngilizce öğrenimimi desteklemede daha etkiliydi.	1	2	3	4	5
34. MMS mesajları SMS mesajlarına kıyasla daha ilgi çekiciydi.	1	2	3	4	5
35. MMS mesajları SMS mesajlarına göre daha motive ediciydi.	1	2	3	4	5
36. MMS mesaj içerikleri ders kitaplarının içeriğine daha yakındı.	1	2	3	4	5
37. MMS mesajları SMS mesajlarına göre daha bilgilendiriciydi.	1	2	3	4	5
38. Çalışma süresince daha fazla MMS mesajı almayı tercih ederdim.	1	2	3	4	5
39. SMS ve MMS mesaj türlerinin içerikleri benzerdi.	1	2	3	4	5
40. MMS ve SMS mesaj türleri arasında öğreticilik bakımından ciddi bir fark yoktu.	1	2	3	4	5

F) Aşağıdaki içerik türlerini İngilizce öğrenmenize katkısına göre 1'den 7'ye kadar sıralayınız. (1= en fazla, 7= en az)

- _____ Yeni kelime ve anlamlarının bulunduğu mesajlar
- _____ Yeni öbeksi fiil (phrasal verb) ve anlamlarının bulunduğu mesajlar
- _____ Dil bilgisi yapılarının örneklendirildiği cümleler içeren mesajlar
- _____ Ünlü kişi ya da figürlerin anlatıldığı mesajlar
- _____ “Biliyor muydunuz?” başlıklarıyla gönderilen mesaj içerikleri
- _____ “Tarihte bugün” başlıklarıyla gönderilen mesaj içerikleri
- _____ Dil bilgisi kurallarının açıklandığı mesaj içerikleri

G) Katılımcısı olduğunuz MobilinguAid çalışmasına dair görüş ve önerilerinizi belirtiniz.

Appendix D: Samples of supplementary messages

Messages including new words and their meanings

(09.03.2010)

WORDS OF THE WEEK

SOCIABLE: someone who is friendly and enjoys being with other people.
TALKATIVE: someone who talks a lot. **SENSIBLE:** reasonable, practical, showing good judgment

(12.04.2010)

INTERROGATE: sorgulamak. **DO UP:** iliklemek, bağlamak. **IN RETURN:** karşılığında. **SPREADSHEET:** hesap çizelgesi. **GIVE IN:** teslim etmek. **DAZED:** şaşkın.

(21.04.2010)

NEW WORDS! >> **COLLEAGUE:** meslektaş. **SPACIOUS:** geniş, ferah. **KEEP IN TOUCH:** irtibatta kalmak. **GET TO KNOW:** tanımak. **SUPERB:** enfes, harika. **GET ON WELL:** iyi geçinmek

(26.04.2010)

PATIO: terrace. **INSCRIPTION:** piece of writing on a stone or book. **CONVENT:** religious residence for girls. **REUNION:** coming together again after a long time

Messages including new phrasal verbs and their meanings

(22.03.2010)

PHRASES OF THE WEEK

GIVE UP: bırakmak **THROW AWAY:** atmak **SET UP:** kurmak, oluşturmamak **LOOK AFTER:** ilgilenmek, bakmak **TURN UP:** çıkagelmek, ortaya çıkmak **GIVE AWAY:** bağışlamak, vermek

(07.04.2010)

SWITCH OFF: kapatmak >**LOOK LIKE:** benzemek >**MAKE A LIVING:** hayatını kazanmak >**TAKE UP:** başlamak >**GIVE UP:** bırakmak >**CARRY ON:** sürdürmek >**TURN DOWN:** geri çevirmek

Messages which exemplify new grammar structures

(26.03.2010)

Mary **HAS BEEN READING** a new novel **FOR** a few days. She **HAS READ** 80 pages **SO FAR** but she **HASN'T FINISHED** it **YET**. She **IS** still **READING** and she has 65 pages left.

(05.04.2010)

Being a student is sometimes really difficult. You cannot pass the class **UNLESS** you work hard. **IF** you fail an exam, you **MUST** work harder for the next one, and you **SHOULDN'T** give up **UNTIL** you succeed. **WHEN** you pass it, you **CAN** plan celebrations with your friends! Good luck!

(18.04.2010)

Technology **HAS IMPROVED** a lot in recent years. We **USED TO** have nice face-to-face chats 10 years ago, but today online chats seem even more popular. We **DIDN'T USE TO** play computer games for hours. And we **DIDN'T USE** to receive SMS messages to learn "**USED TO**" form in English grammar..!

Messages explaining grammar rules

by CMFNet

If ...

We use IF clauses to talk about conditions. That's why we also call them **CONDITIONALS**.

IF I were very rich, I **COULD** TRAVEL all around the world. (Second Conditional)

Slayt 2

IF Jack works harder, he **WILL PASS** all his exams. (First Conditional)

Tasarımlarınıza resim ve sesler ekleyebilirsiniz.

(16.04.2010)

If I **WERE** rich, I **WOULD BUY** a skyscraper and **LIVE** there. I **COULD** also **BUY** any car I liked, if I **HAD** much money. Life **WOULD BE** easier for me then, **WOULDN'T** it?

Messages titled "Did you know?"

(17.04.2010)

DID YOU KNOW?: The longest animal in the world is a "**worm**". It is called the Ribbon Worm, and its body is brown **with lighter stripes**. Scientists believe that it can **grow up to a length of 30 to 60 metres**.

(09.05.2010)

Istanbul, **WHICH** is an old city, is the heart of Turkey and the European Capital of Culture. It is also a city **WHERE** you can see every different culture! That's why it is the European Culture Capital of 2010.

Messages describing and talking about famous people or figures

(15.03.2010)

Chaplin **WAS** a famous figure in film history. He **MADE** silent movies; **WROTE** and **ACTED** in dozens of films. He **GREW UP** in London and **BECAME** the legend of the UK.

(27.04.2010)

Pink Floyd **WERE** an English rock band who earned **RECOGNITION** for their psychedelic music in the late 1960s and 1970s. Their albums **SOLD** over 200 million albums **WORLDWIDE** and this made the band one of the **BEST-SELLING** music artists of all times. There are millions of fans of the **BAND** all around the world...

(08.05.2010)

The radio **WAS INVENTED** by Nikola Tesla but it **WAS POPULARIZED** by Marconi in 1895. The first radio **TRANSMISSION** across the ocean **OCCURED** on December 12, 1901.

Contents of the messages titled "Today in History"

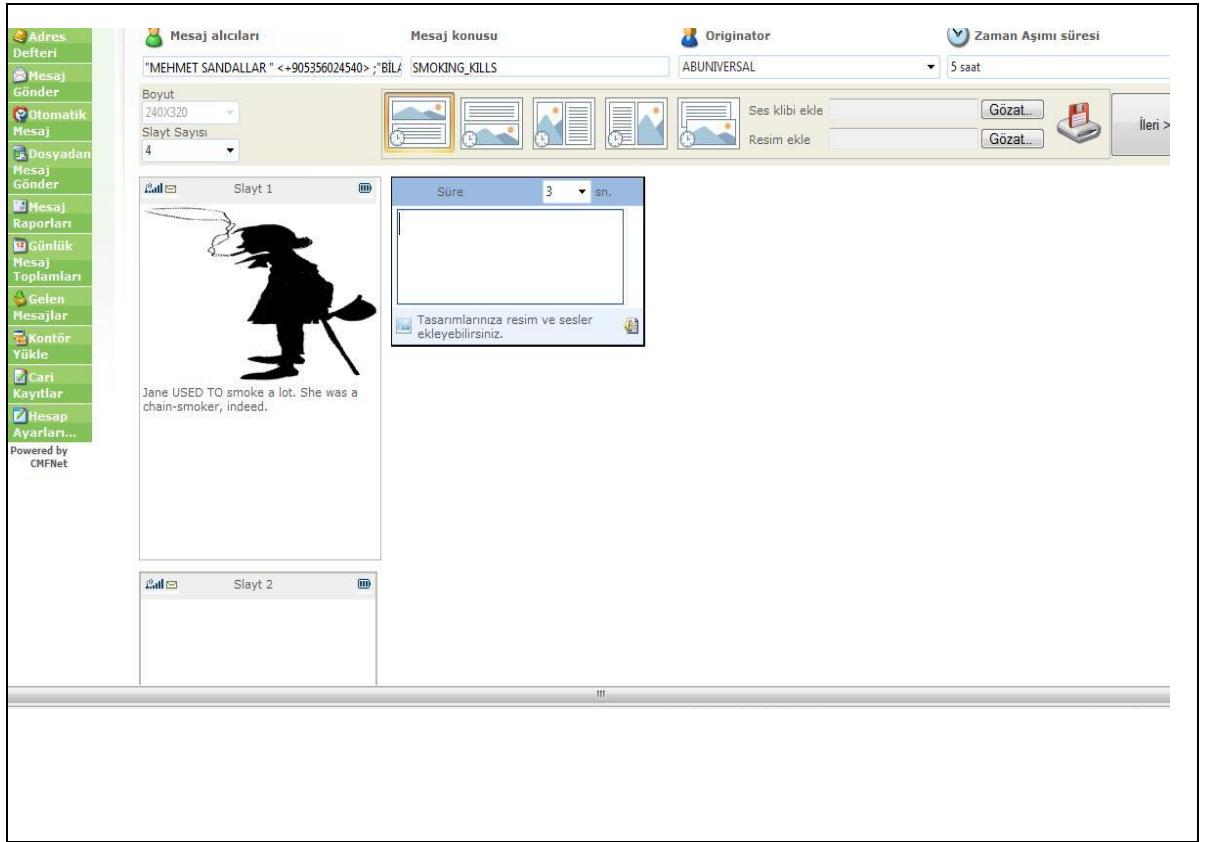
(17.04.2010)

TODAY IN HISTORY: Christopher Columbus **SET OFF** from Spain for the "New World" on April 17th, 1492. He **DISCOVERED** America in the same year. Centuries **HAVE PASSED** and the USA **HAS BECOME** one of the most developed countries in the world. Now, it is a country of **wealth** and power...


(06.05.2010)

The first working airplane **WAS FLOWN** by Wright Brothers in 1903. Their plane **WAS CALLED** the Flyer and it **FLEW** for 12 seconds and for **A DISTANCE OF 40** meters...

Appendix E: MMS message preparation interface



Appendix F: SMS message preparation interface


5010-5320086905
414,00
Çıkış

Kullanıcı İşlemleri

- Adres Defteri
- Mesaj Gönder
- Otomatik Mesaj
- Dosyadan Mesaj Gönder
- Mesaj Raporları
- Günlük Mesaj Toplamları
- Gelen Mesajlar
- Kontör Yükle
- Cari Kayıtlar
- Hesap Ayarları...

Powered by CMFNet

5010-5320086905 | Yeni Mesaj Gönder

Mesaj Bilgileri :

Originator
» ABUNIVERSAL

Mesaj Alıcıları :
» [XTRAs];[HS105];[HS102];

Mesaj metni : Mesaj : 1 Karakter : 157 / 612

**INTERROGATE: sorgulamak. DO UP: iliklemek. IN RETURN: karşılığında.
 SPREADSHEET: hesap çizelgesi. GIVE IN: teslim etmek. DAZED: şaşkın. PUNISH:
 cezalandırmak**

[İleri >>](#)

Mesaj Tipi :

SMS

MMS

Mesaj Özellikleri :

Zaman Aşımı :
12 saat

Gönderim tarihi (İleri Tarih) :
13.04.2010 ... 20 v ; 00 v

Kişiselleştirilmiş Mesaj :

Kişiselleştirilmiş mesaj gönder.

Appendix G: SMS and MMS message screenshots



Appendix H: Informative feed e-mail from ADÜ YDYO instructor

Message List Delete	Previous Next	Forward Forward as Attachment Reply
---	---	---

Subject: last week's report and this week
From: "pekin okyay" <pekinokyay@hotmail.com>
Date: Thu, May 6, 2010 1:45 am
To: husem@bilkent.edu.tr
Priority: Normal
Allow Sender: [Allow Sender](#) | [Allow Domain](#) | [Block Sender](#) | [Block Domain](#)
Create Filter: [Automatically](#) | [From](#) | [To](#) | [Subject](#)
Options: [View Full Header](#) | [View Printable Version](#) | [Download this as a file](#) | [Spam](#) | [Not Spam](#)

Dear My Colleague,

Because there was a quiz at my class time last Friday, i just had 2 hours with 102. We listened to the story about a librarian girl's becoming a political reporter in a month. It was a part of unit 5C "Job Swap".The students learnt some new vocabulary like, challenge, contestant, persuade, tough, isolated and stuntman. They practised "useful language" part:
 "I wouldn't like....
 I wouldn't mind....
 I think I'd enjoy....
 I think I'd be (quite) good at....
 I'd be terrible at...." and we played "pick a card" game which is on page 201 of Intermediate Teacher's Book. I cut the questions and each student chose a card to ask one of their classmates. This game was about prepositions, noun formation and vocabulary about work.

At the beginning of this week they learnt how to write a formal letter and CV, they were supposed to write an application letter and CV for a job in the Olympics.

Grammar subject of unit 6A is about reported speech statements, questions and commands. Vocabulary is about "shopping" such as bargain, receipt, refund, trolley and discount. Tomorrow we will continue with unit 6B "See the Film...Get on a Plane". I am going to send another report for Thursday and Friday.


Kind regards..

Peilin OKYAY
 ADU School of Foreign Languages

Appendix I: Study website: www.mobilinguAid.com


MobilinguAid

Mobile aid for language learning



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MobilinguAid To Be Defended



MobilinguAid thesis project which investigated the effectiveness of mobile assisted language learning applications in supplementing in-class EFL textbooks has been completed and it is to be defended by the researcher H. Korkmaz on July, 9th.

The project was started at Aydın Adnan Menderes University in March and lasted for eight weeks. During the experimental process, 50 of 100 participants were sent mobile supplementary messages to support their in-class language learning and the messages served as supplementary materials for EFL textbooks [Read More](#)

Project MobilinguAid Completed!



Today (14.05.2010) is the last day of the thesis project MobilinguAid. The participants of this study have so far received around 40 messages supplementing their in-class learning at Adnan Menderes University. After receiving the second set of midterm results from ADÜ YDYO, ultimate findings of the study will be reported and shared with public.

Categories

- ADÜ YDYO HS102 & HS105 (TR)
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