

T.C.
ISTANBUL AYDIN UNIVERSITY
INSTITUTE OF GRADUATE STUDIES



**THE IMPACT OF BLENDED MOBILE LEARNING
ON EFL STUDENTS' VOCABULARY DEVELOPMENT**

PhD. THESIS

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Department of English Language and Literature
English Language and Literature Program

FEBRUARY, 2023

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APPROVAL PAGE



DECLARATION

I hereby declare with respect that the study “The Impact of Blended Mobile Learning on EFL Students’ Vocabulary Development”, which I submitted as a PhD dissertation, is written without any assistance in violation of scientific ethics and traditions in all the processes from the Study phase to the conclusion of the thesis and that the works I have benefited are from those shown in the References. (13/02/2023)

Mehmet ASLAN



FOREWORD

First of all, I thank Almighty God for giving me health, strength, and perseverance to successfully complete this doctorate journey.

I would like to express my deepest gratitude to Prof. Dr. Birsen TTNİŐ, my advisor. Without her expertise, guidance, and support, this doctorate journey wouldn't probably have been completed.

I am grateful to Prof. Dr. Trkay BULUT for her contributions to my thesis and for holding my hands in the most difficult situations. Besides, I am really thankful to Prof. Dr. Veysel KILIŐ, Assistant Prof. Hlya YUMRU, and Assistant Prof. zge KKSAL for their contributions to my thesis.

I would like to express my endless gratitude to Associate Dr. Aydın Grmez for encouraging me to embark on my doctoral journey and for his unwavering support throughout the entire doctoral process.

I would like to thank Cihat ZTAY for taking on the majority of my administrative responsibilities so that I could devote more time to my thesis and I would like to convey my appreciation to all of my other colleagues for their comments that helped me develop my thesis.

I also want to say how much I appreciate and love all of my students for taking the time to participate in my study for a full term.

Additionally, I owe a debt of gratitude to İőhak KOZİKOŐLU, Bnyamin HAN, Ahmet Kasım SEZGİN and Sleyman KASAP, who enlightened my way at the points where I got stuck.

Finally, I would like to apologize to my entire family, especially my dear wife, zgl, and my children, Elif Reyhan and mer Erdem, for neglecting them during the writing process of my dissertation and I offer them my sincere love.

Őubat, 2023

Mehmet ASLAN



THE IMPACT OF BLENDED MOBILE LEARNING ON EFL STUDENTS' VOCABULARY DEVELOPMENT

ABSTRACT

Although mobile devices such as laptops, tablets, and mobile phones are increasingly being used in all areas of life, universities and schools are approaching this situation with some caution. Researchers have been studying for a long time to investigate the contribution of mobile devices to education. Although these studies have various results, it is the majority opinion that mobile devices will contribute to education.

This quasi-experimental study was conducted with 40 students at Van Yüzüncü Yıl University School of Foreign Languages in 2021-2022. One of the two classes randomly created by the School of Foreign Languages was casually selected as the control group and the other as the experimental group. While the control group was taught vocabulary with reading texts only in the classroom by adhering to the textbook, the experimental group, in addition to the same teaching, was taught vocabulary without any time and place restrictions outside the classroom based on the SAMR model in a virtual classroom opened through the Google Classroom application. The mixed method was used as the data collection method.

This study answers three research questions. The first research question is: What is the contribution of Blended Mobile Learning (BML) to vocabulary development? To get the answer to this question, a pre-test and a post-test were applied to the students. Once the differences between the pre-test and post-test results of the groups were analysed with SPSS 26, there was an improvement of 3.10 in the control group, while this improvement was 16.85 in the experimental group. This situation was interpreted in favour of BML. The second research question of this study is: What are the views of EFL students on the effect of BML on vocabulary development? For the evaluation of the second and third research questions, a questionnaire consisting of five open-ended

questions was applied to the experimental group through Google Forms and the answer of the students were analysed with the MAXQDA 2020 application. It was understood from the responses given by the students that they consider learning vocabulary with BML is more fun, more memorable, faster, easier, and cheaper. In the third research question, students were asked about their general views on BML. 93% of the students prefer BML to the traditional method and think that learning with BML is more engaging, permanent, and ubiquitous. As a result of this study, it has been concluded that BML will benefit education and motivate students more.

Keywords: Blended learning, Vocabulary, Mobile devices, Mobile learning, SAMR

HARMANLANMIŞ MOBİL ÖĞRENMENİN YABANCI DİL OLARAK İNGİLİZCE ÖĞRENEN ÖĞRENCİLERİN KELİME GELİŞİMİNE ETKİSİ

ÖZET

Dizüstü bilgisayarlar, tabletler ve cep telefonları, gibi mobil cihazlar hayatın her alanında hızlı bir şekilde kullanılmaya başlanmasına rağmen, üniversite ve okullar bu duruma biraz temkinli yaklaşıyorlar. Araştırmacılar mobil cihazların eğitime katkısını araştırmak için uzun bir zamandan beri çalışmalar yapıyorlar. Bu çalışmaların farklı farklı sonuçları olsa da çoğunlukla mobil cihazların eğitime katkı sunacağı görüşü öne çıkmaktadır.

Bu yarı-deneysel çalışma 2021-2022 yılında Van Yüzüncü Yıl Üniversitesi Yabancı Diller yüksekokulundaki 40 öğrenciyle yapıldı. Yabancı Diller yüksekokulu tarafından rastgele oluşturulmuş iki sınıftan biri kontrol grubu diğeri deney grubu olarak rastgele seçildi. Kontrol grubuna sadece sınıf içinde ders kitabına bağlı kalınarak okuma parçaları ile kelime öğretimi yapılırken deney grubuna aynı öğretimin yanı sıra sınıf dışında yer ve zaman kısıtlaması olmadan Google Classroom uygulaması üzerinden açılan bir sanal sınıfta SAMR modeli temel alınarak kelime öğretimi yapıldı. Veri toplama yöntemi olarak Karma yöntem kullanıldı.

Bu çalışma üç temel araştırma sorusuna cevap vermektedir. Araştırmanın ilk cevap verdiği soru: Harmanlanmış Mobil Öğrenmenin kelime gelişimine katkısı nedir? Bu sorunun cevabına ulaşmak için öğrencilere ön-test ve son-test uygulamaları yapıldı. Aradaki fark SPSS programı ile analiz edildi. Grupların ön-test ve son-test farkları analiz edildiğinde, kontrol grubunda 3,10 lük bir ilerleme olmuşken deney grubunda bu ilerleme 16,85 oldu. Bu durum Harmanlanmış Mobil Öğrenmenin lehine olarak yorumlandı. Bu çalışmanın ikinci sorusu: EFL öğrencilerinin Harmanlanmış Mobil Öğrenmenin kelime gelişimine etkisi hakkındaki görüşleri nelerdir? İkinci ve üçüncü araştırma sorularının analizi için deney grubuna beş açık uçlu sorudan oluşan bir anket

Google formlar üzerinden uygulandı ve öğrencilerin verdikleri cevaplar MAXQDA 2020 programı ile analiz edildi. Öğrencilerin, Harmanlanmış Mobil Öğrenme ile kelime öğreniminin daha eğlenceli, daha akılda kalıcı, daha hızlı, daha kolay ve daha ucuz olduğu düşüncesinde oldukları sorulara verdikleri cevaplardan anlaşılmaktadır. Üçüncü araştırma sorusunda öğrencilere Harmanlanmış Mobil Öğrenme hakkındaki genel görüşleri soruldu. Öğrencilerin %93 Harmanlanmış Mobil Öğrenmeyi geleneksek yöntemle tercih ettiklerini ve Harmanlanmış Mobil Öğrenme ile öğrenmenin daha ilgi çekici, sürekli ve yer ve zaman kısıtlaması olmadan olduğu düşüncesindedirler. Bu çalışma sonucunda Harmanlanmış Mobil Öğrenmenin eğitime fayda getireceği ve öğrencileri daha çok motive edeceği sonucuna ulaşılmıştır.

Anahtar Kelimeler: Harmanlanmış öğrenme, Kelime, Mobil cihazlar, Mobile öğrenme, SAMR

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LIST OF ABBREVIATIONS

BL	: Blended Learning
BML	: Blended Mobile Learning
BMLL	: Blended Mobile Language Learning
CALL	: Computer- Assisted Language Learning
MALL	: Mobile-Assisted Language Learning
TPACK	: Technological Pedagogical and Content Knowledge
SAM	: Substitution, Augmentation, Modification, Redefinition



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I. INTRODUCTION

This part of the thesis starts by explaining the background of the research by giving brief information about the history and importance of technology in language learning. Following that, the problem statement and the significance of this study are clarified. Then the research questions addressed in the research follow. The chapter goes on with the research limitations and the definitions of the key terms.

A. Background of the Research

It has been a long time since technological devices began to be utilized for educational purposes and as supportive and supplementary materials. The relationship between technology and language dates back thousands of years when writing, which makes language visible and recordable, was invented (Chun, Richard, & Smith, 2016). Starting with writing, educational technology continued to develop with the blackboard, which is a perfect tool for mono-directional knowledge transfer. Later, the overhead projector, which is a great device for teacher-centred classrooms, was used. Beginning in the 1970s until the usage of computers in class, audiotapes were used for listening activities in second or foreign language learning. The utilization of technology has an encouraging and immense influence on language learners, and it has a great impact on the enlargement of the intellectual power and imagination of learners (Chun et al., 2016). Thanks to technology, students experience things that they could not imagine or understand before, and this not only improves their minds but also allows their imaginations to expand. For example, thanks to professionally prepared animations, students can now easily and quickly grasp a subject that they had difficulty perceiving before. A student who has difficulty grasping the phonemes of the language can now grasp them easily with apps that teach the phonetic alphabet and include examples of sounds in the language, or a language learner who does not have the environment to practice the language can now speak with a native speaker who is in a far corner of the

world thanks to some apps.

As a consequence of technological innovations, teaching methods for language learning are substantially altered (Pun, 2013). Traditional teaching methods like the Grammar Translation Approach or Audio-Lingual Method were replaced by more communicative approaches like Communicative Language Teaching or the Natural Approach with the appearance of multimedia classrooms. Computers, which make learning faster, easier, and more fun, have taken their place in educational environments since the 1990s and have been used for educational purposes since they emerged. With so many opportunities, computers have made language learning more exciting and interesting. With the use of the internet, learners can access many websites that teach language, listen to podcasts in a foreign language, and watch videos about the topics they wonder about or subjects they do not figure out. Also, because computers have a large number of resources, language learners can be exposed to a large amount of comprehensible input, which is required for target language acquisition (Krashen, 1992). As the educational use of computers became widespread, a theory was needed to define the framework and principles of computer use in language teaching; this is why Computer Assisted Language Learning (CALL), which is still an influential theory, emerged. Many scientific studies have been conducted and continue to be designed in order to investigate the answers to questions such as how to use a computer in the classroom, how to use applications or websites more beneficially, and how these devices can be used in language education in and out of the classroom. The invention of computers was a great revolution in history, and their use for language teaching has also created an uprising in language education, and thus, even though technology develops and new and different inventions emerge, computers will continue to exist in educational settings.

In the recent past, desktop computers have mostly been replaced by laptops, and they are being substituted by mobile devices thanks to evolving, advanced, and innovative modern technology. Among the latest wonders of modern technology, mobile devices like smartphones and tablets can accomplish numerous tasks that can be done only with the assistance of several different tools. These devices, which emerged mainly for communication, developed as time progressed and started to do the work of many

machines. Mobile devices, which are portable and personalized tools with many functions, are also very useful in language education. Thanks to their “accessibility, personalization, and portability”, mobile devices can open new windows in language learning (Saran and Seferoğlu, 2010). As Prensky states, they can be used in second or foreign language learning and teaching because they are like mini-computers in learners’ pockets with which they can do many things like text messaging, voice recording, searching for any unknown information, chatting face-to-face, and so many other things (2005).

In addition, the fact that these devices can access the internet makes them very valuable in language learning because thanks to the internet, all hard-to-reach information is now at our fingertips. At any time, individuals can access the internet, read a text, watch a video, or take a quiz in a foreign language. Numerous examples of how cell phones can be used for learning exist, including blogs, e-books, electronic dictionaries, vocabulary games, surveys, podcasts, and short-written tasks. Students’ exposure to language without limits of time and place allows for incidental learning even if they are not deliberately focused (Irina 2012). Language learning can be done in almost any place such as airports, restaurants, libraries, homes, or schools. Students can practice a foreign language or learn something new wherever they are, including on the bus, train, outside, at work, or even while lying in bed. Today, nearly all higher education students have smartphones or tablets, and they use various applications that promote the learning of a language; therefore, language learning is not restricted to in-class teaching any longer, that is, learners can access educative activities, videos, and audios at any time and place (Miangah and Nezarat, 2012).

Mobile devices, which are frequently used for learning purposes outside the classroom, are able to become tools that teachers integrate into the lesson so that they can assign homework to students, share educational videos with them for extra studying, or give additional information via a learning management system. The number of educators incorporating mobile devices into face-to-face education in different ways is substantial. By utilization of mobile devices in an assistive way to face-to-face learning, Blended Mobile Learning (BML) emerged. This new theory arose to determine answers to some questions, including how mobile devices will be used inside and outside the

classroom for formal education, which skills will be improved by which methods, and what the general framework of mobile device usage is.

Studies on the use of mobile devices in formal education, in and out of the classroom, have been and continue to be conducted. Thanks to these studies, the advantages and disadvantages of mobile devices in educational settings are put forward. Investigations done in this area reveal that mobile devices are efficiently used in language learning. Additionally, they are used beneficially in formal education as well as being widely used for language learning outside the classroom. According to the study of Wang et al. (2015), who applied an iPad app for in-class vocabulary teaching for college students, learning vocabulary from the iPad in a formal setting is substantially effective. Darni and Albion (2014) investigate previous studies about the usage of mobile phones in SLA in formal educational settings, and they claim that usage of mobile phones is accessible for students and has a crucial role in developing their language knowledge and skills. To see the behaviour and attitudes of university students toward the usage of mobile technologies in language learning in the classroom, Al Aamri (2011) made an investigation and realized that though students enjoy learning with mobile devices, the usage of mobile phones is limited in language learning processes in formal settings because of teachers' discouragement. There are great deals of applications in the App Store or Google Play for language learning. This property of mobiles is fairly appropriate for ubiquitous learning. These modern devices should be adapted to educational settings; however, they are still unfortunately excluded from the field of education in some parts of the world.

While an increasing number of educational institutions around the world are accepting the usage of mobile devices in their educational modules, most of the scholarly world still prohibits phones in the classroom and even on campuses (Irina, 2012). According to some instructors, mobile devices are the enemies of traditional and controlled classroom environments, while others consider that educational institutions should keep up with the digital age. Recently, there has been a significant interest in using mobile devices in educational contexts. Some countries, such as Brazil, Qatar, South Korea, Thailand, and the United Arab Emirates, have implemented handheld devices in their education systems (Ally, 2013). In Turkey, starting in 2015, students

have been delivered tablets to be used in classroom activities. According to some studies (Mahat et al., 2012; Corbeil and Corbeil, 2011), learners are willing to take education with mobile devices and many studies have presented that mobile devices are beneficial in language learning and language teaching (Thornton and Houser, 2005; Saran and Seferoğlu, 2010; Alemi et al., 2012; Wang and Shih, 2015; Basoglu and Akdemir, 2010; Suwantarathip and Orawiwanakul, 2015). Despite those and many other studies, whether or not using mobile devices as an educational tool in a formal educational setting is beneficial and acceptable to students has not been proven yet. As stated by Cheon et al. (2012), more studies have to be done to be sure about the effects of mobile device usage on students and instructors.

B. Statement of the Problem

Although there are a lot of studies about the benefits of mobile phones in personalised foreign language learning helping the improvement of four basic skills outside of the classroom (Irina, 2012), there are not enough studies and practices about the use of mobile devices for vocabulary learning beyond the classroom walls of face-to-face learning in a blended learning context.

Vocabulary is one of the most vital aspects of language learning and has a huge impact on the four main language skills. Having a wide vocabulary is very important for understanding and producing a new language. Although there is no specific technique or strategy proposed as the best method for teaching vocabulary, many studies are emphasizing the importance of utilizing technological tools for vocabulary development. (Busch, 2003; McGlenn & Parrish, 2002; AlKahtani, 1999). Combining classroom instruction with mobile learning can be hugely effective in student vocabulary development. The use of appropriate mobile devices and applications as auxiliary resources in face-to-face education can increase students' vocabulary and help them retain the words they learn.

Although there are many studies about the advantages of mobile devices while learning a new language, the impact of mobile technology on the vocabulary development of language learners has not been sufficiently researched. In this quasi-experimental study, the effects of vocabulary teaching to B2-level preparatory class

students in an environment where face-to-face education and mobile education are blended, that is Blended Mobile Learning, will be investigated, and students' perspectives on such an approach will be determined. The results of this study will help to clarify the current situation and enlighten us about the future of Blended Mobile Learning.

C. Significance of the Study

With the development of technology, the world has been transformed into a global village in which everybody can reach and hear everything in a short time. Also, the development of technology has become a reaction to the traditional way of learning and forces instructors to reshape the method with which they teach the language (Ababneh, 2017). Students are no longer bound to their teachers and in-class formal learning. They can learn a foreign language with various applications on mobile devices, or they can reach the farthest professors and take education from them with the help of the internet. As stated by Irina (2012), with their connection to the internet and the development of web 2.0, mobile phones have become one of the most influential learning devices with which learners can be exposed to, produce, and share information.

Even though modern technology is so advanced and contributes to revolutionary changes in many fields, this great change is unfortunately not seen in education. Thanks to modern technology, serious progress should have been made in the field of education as in other fields. However, the desired revolution in education did not take place because some educators preferred to keep technology at a standard level in language education. As claimed by Chun et al. (2016), it is not conceivable to stop using technology because technology is so widespread and it is so intertwined with human activities that teaching a language without any technological tool will create a very restricted and artificial learning setting. Therefore, despite all the supposed disadvantages of technology, it must find its place in the educational environment as a supporter of education. Larry Cuban (2002), a professor at Stanford University, points out that supporters of new technologies often talk about fundamental changes, while few seek profound and far-reaching changes to existing education systems. However, as in many other fields, radical changes must take place in the field of education in this age of

modern technology.

Due to technological development and the mobile age, educational institutions should change their way of teaching and educational implementations. Even though some institutions and instructors push to keep mobile devices, particularly mobile phones, outside of the educational settings by banning phone usage thinking that it is a distracting tool, it is nearly infeasible to keep it away from the mind of the learners. Learners consider their messages, social connections, videos waiting to be watched, and sometimes games during instruction time. Yet, rather than keeping mobile phones away from educational settings, they should be employed as useful tools for education. Modern technological devices should be integrated into education, but in a reasonable way and as a supportive tool. Unlike computers, mobile phones are available to all individuals across social and financial classes. Since mobile phones are used by a large majority of the young generation, who also constitute a great number of formal learners, it is not easy to keep them away from mobile phones; on the contrary, permitting students to use their mobile devices for educational purposes is more beneficial and realistic in such a technological era. This research is a supportive study to figure out students' perspectives on the usage of mobile devices as a supporting tool for face-to-face learning. Also, it will enlighten educators about technology integration in education and its effects on EFL students' vocabulary development.

D. Purpose of the Study and Research Questions

This research is a study which was conducted to find answers to the questions of whether Blended Mobile Learning (BML) is an effective approach in the vocabulary development of EFL students and what the students' views about the usage of mobile devices as educational tools are. Applying the SAMR model, an effective technology integration model developed by Ruben Puentedura in 2006, as a technology integration model, utilizing BML as a pedagogical method, and using a mixed method data collection technique, this study aims to put forward the influence of BML on students' vocabulary development. This study also aims to find out students' views about the usage of mobile devices in language learning in a blended context.

One of the significant aspects of mobile learning is that it enables collaboration

through communication and texting. By sharing videos and texts and also making interpretations and corrections for each other, students learn a lot from one another in formal and informal settings. It is known that mobile devices have already become a tool for informal learning. Mobile devices are potentially and personally used for language learning outside of the classroom, but they are not commonly used as supplemental tools for in-class learning. Whether mobile devices are applicable in the formal setting and what attitudes students will show are investigated in detail. Even though numerous studies have demonstrated that handheld tools are effective in informal learning and outside of the school context, the number of studies investigating their usage as supportive tools in face-to-face education is very limited.

Table 1 Research Questions and What to Measure

Research questions	What to measure
1. What is the effect of Blended Mobile Learning on the vocabulary development of B2-level EFL students?	Whether studying vocabulary with mobile devices has any positive or negative results on students' vocabulary development.
2. What are B2-level EFL students' views about the advantages of mobile devices in vocabulary development?	Students will use mobile devices to study and use vocabulary so that they can evaluate how effective and supportive mobile technology is in vocabulary development.
3. What are EFL students' views towards Blended Mobile Learning in general?	What are students' opinions about Blended Mobile Learning in general? How is the blended learning context compared to face-to-face learning?

E. Limitations

This study is restricted to 14 weeks of a school term and 40 students registered in the preparatory class of the school of foreign languages at Van Yüzüncü Yıl University in Van, a city situated in the eastern part of Turkey.

F. Definition of Terms

Android: A worldwide popular operating system used for mobile devices

Blended Learning (BL): The combination of face-to-face learning with online activities or the usage of modern technological devices in educational settings.

Blended Mobile Learning (BML): A teaching method that combines face-to-face instruction with mobile devices and applications.

Blended Mobile Language Learning (BMLL): Supporting face-to-face education with mobile devices and applications to teach a new language.

Computer-Assisted Language Learning (CALL): A theory of language teaching which focuses on the significance of language learning with the help of a computer or computer software.

iOS: An operating system used for Apple brand mobile devices.

Mobile application (Mobile app): A software program designed to be used on a mobile device.

Mobile-Assisted Language Learning (MALL): Using mobile devices like mobile phones, tablets, or personal digital assistants (PDAs) in class or outside of school for language learning.

Mobile Devices: Portable technological tools like mobile phones and tablets.

Mobile Learning (m-learning): Using mobile devices like mobile phones, tablets, or personal digital assistants (PDAs) for educational reasons in-class or outside of school.

SAMR Model: A technology integration framework that consists of four stages: substitution, augmentation, modification, and redefinition.



II. LITERATURE REVIEW

This chapter, which is the most intense part of the thesis, is gathered under four main headings: the first section includes the relationship between language education and technology, the importance of technology in language education, and technology integration models. The second section is about the place of mobile learning and mobile devices, which is an important part of this thesis and one of the wonders of technology, in language education. In this part, firstly, the definition of Mobile-Assisted Language Learning is clarified, and then the transition from computer use to mobile device use in language education is explained under the title “from CALL to MALL.” The last part of this section is about mobile learning theories. In the third section, Blended Mobile Learning, which emerged as a result of the integration of mobile devices into face-to-face education, is focused on, but before moving on to this, detailed information about Blended Learning is given, including the definition and types of blended learning. In the last section of the literature review chapter, vocabulary in language learning, which is another key part of this thesis, is elucidated. This section thoroughly discusses the importance of vocabulary in language learning, vocabulary types, vocabulary development in a foreign language, vocabulary learning strategies, the place and importance of technology in vocabulary teaching, and the most popular applications used in vocabulary teaching.

A. Technology in Language Learning

Technology, which is defined by the *Oxford Online Advanced Learner's Dictionary* (2020) as “scientific knowledge used in practical ways in industry, for example in designing new machines”, comprises an important part of our lives. Technological developments and inventions began with the appearance of human beings on the earth and will continue until the end of the world. Technological inventions and discoveries have greatly affected human life. Even though some disadvantages of technology may occur, it has substantially made human life easier, more comfortable,

and more enjoyable.

In history, the usage of sticks or any sharp materials as a writing device and clay or rocks as a place to write was a turning point. Such technological developments have increased correspondingly with time and these advances assist the human mind to expand and invent new ideas. Technology is often thought of as a way of increasing logical capacity and creativity (Chun et al. 2016). Today, technology is thought to be at the highest and fastest level and has greatly penetrated every part of life. Technology is a large umbrella and is related to any part of life, but what we are going to focus on is educational technology, which is described as the usage of any gadgets and means that help and increase the efficiency of teaching and learning (Alkhezzi & Ahmed, 2020).

Education has been greatly influenced by technological inventions. As was stated previously, the invention of writing became a turning point in human history, and later usage of blackboards, audiotapes, projectors, computers, and mobile devices largely changed the course of education. Usage of computers in the classroom makes education more visual and auditory. Today, mobile devices are used inside and outside of the classroom for the purpose of learning and teaching, which has added a new dimension to education. Students are more autonomous and education is ubiquitous now. Lam (2000) claims that technology makes students more alert and excited. Learners do not have to spend hours in class learning a topic because they can find out anything they wonder about anytime and anywhere. Briefly, technology has made education significantly easier and more reachable.

Technology is used in every subject and has to do with every field, but in this section, we will focus on language learning and explain its relationship with technology. The importance of technology in language education, technological devices used in language teaching historically, and finally two popular technology integration models, TPACK and SAMR, are also the topics of this section.

1. Importance of Technology in Language Learning

Language learning is a context that is substantially different from most of the other disciplines because it definitely requires technological tools. Based on four skills, namely speaking, writing, reading, and listening, language learning is a field in which

technology usage is almost necessary. With the help of technological devices, such as computers and mobile devices, students can immensely increase their language capacity. With the internet, learners can access authentic materials easily, so they can read, listen to, and watch anything on their phones or computers. Students can search for anything they do not understand in the lesson, and they can watch teaching videos about related topics. Thanks to technological tools, teachers can appeal to all students with different learning styles. Taking their students' learning styles into consideration, instructors can also utilise technological tools while they are preparing their lesson plans and syllabuses. Teachers can use a learning management system or any application to teach a new subject. As a consequence, technology is not just for learners, but also for teachers. As asserted by Lawless & Pellegrino (2007), technology is a necessary component of education and ought to be used to support teachers' ongoing professional development.

The technological devices of the 21st century are much more effective since they demolish the walls that are impediments to learning. Improvements in technology and the invention of high-tech gadgets have changed learning spaces, taken down barriers to face-to-face learning, and created new online learning environments (Dean et al., 2019). With the help of the internet, any place is a learning setting, and there are thousands of teachers from all parts of the world who teach synchronously and asynchronously. Language learning has become more autonomous, and students can choose among numerous materials and sources that are appropriate to their level and needs (Thornton & Houser, 2005).

Learners of a language can build any skills thanks to internet-based applications and web-based programs. They can find online teachers who are native speakers of the target language to practice the target language, or they can find friends from other countries to practice what they have learned so that they can significantly advance their speaking abilities. Going abroad to improve their target language is not a necessity anymore thanks to developed technology. They can listen to songs and podcasts and watch videos and films to improve their listening skills by deciding whether to listen to with lyrics and scripts or not. On the point of reading, students can find online journals, short stories, novels, and newspapers and read them to improve their reading skills and vocabulary knowledge. Furthermore, the internet supplies some applications and

programs that check written drafts and display mistakes. Additionally, learners can meet some experts who can help them improve their writing skills.

To conclude, thanks to technological developments, language learning is more enjoyable and easier today than ever and it ought to be accepted that it is out of the question to teach a foreign language without using technological devices, so educators have to benefit from these tools at the highest level.

2. The Evolution of Technological Gadgets Used in Language Learning

According to Makarova (2018), the goal of digitalization is surely to raise educational standards rather than lower them. Employing technological devices, learning has become simpler, more permanent, more fun, and more understandable. Throughout history, people have tried to improve technology to have a better life and education. As displayed in Figure 1, one of the oldest educational tools is a stick that is used as a pen. Previously, sticks and nails were used as pens, and clay and rocks were used to write on, which is known as the cuneiform writing style. A nail, as a pen, was certainly a crucial technological tool for its time and it can be accepted as the bridge to modern writing. As time has passed, pencil and paper have taken the place of nails and rocks, or clay.

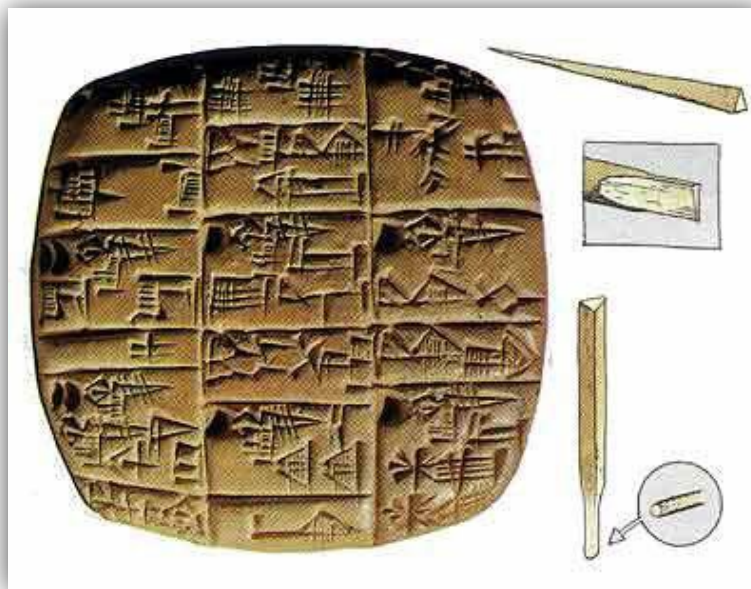


Figure 1 Clay tablet and stick to write with

In addition to pens and paper, one of the most important and indispensable materials in the educational setting and the classroom is the blackboard. The blackboard, which is still used in educational settings, was a means for the one-way transfer of knowledge. The blackboard was an excellent tool for teachers who taught language with the Grammar-Translation Method (GTM) (Warschauer and Meskill, 2000). Blackboards and chalk are so essential and favourable in classrooms, most likely they will exist in educational settings forever.

With the development of the Audio-Lingual Method (ALM), audio tapes became popular for listening exercises. In the 1970s and 1980s, tape players were commonly used for listening activities in language classes and universities' audio labs. Before the invention of computers and mobile phones, audio tapes were the main sources of listening practice and one of the most vital ways of exposing learners to comprehensible input. Every idealistic teacher, whose only goal was not to teach grammar but to improve students' listening and speaking skills, entered the lesson with his or her tape recorder and loudspeaker.



Figure 2 A tape player used in listening courses

Another remarkable gadget used in teacher-centered learning settings was the overhead projector, which is not well known by today's young generation. It was a device that was usually larger than today's wall-mounted projectors and transported to the place or classroom where it was needed. It was used for reflecting texts and

worksheets on the wall or curtain so that all of the students could see them. Thanks to the overhead projector, which was particularly used in higher education, reading and vocabulary lessons were more enjoyable.

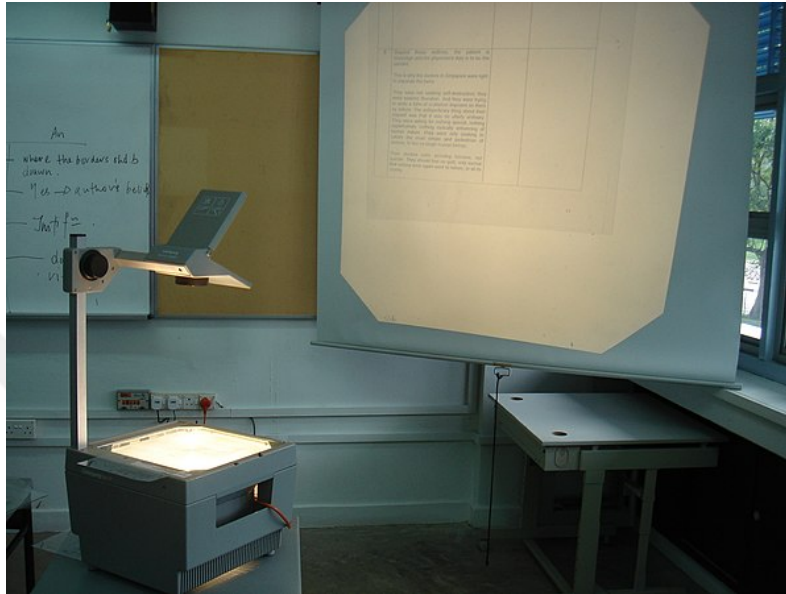


Figure 3 An overhead projector used to reflect a text

Starting in the 1980s, Communicative Language Teaching (CLT), which centres upon meaning and communication rather than form and grammar, became popular. According to CLT, interaction and exposure to comprehensible input were incredibly significant in language learning; for that reason, the use of multimedia technologies also came into prominence. Computers took the stage and some software programs like concordance and text reconstruction were utilized in language classrooms. Developing over time, computers have become the source of visual and auditory materials. In schools, language laboratories were created and equipped with computers. In addition, with the invention of the internet, web-based learning, which enables students to search through numerous websites, has become popular. As a result of increasing computer usage in schools and its great effects on language learning, Computer-Assisted Language Learning theory came into sight to determine the principles of its usage.



Figure 4 A language laboratory furnished with computers

Today, even if desktop computers are still actively used individually or in offices, mobile devices are commonly at the centre of personal language learning education. In classrooms, laptops are among the most frequently used technological devices, yet outside of the classroom, mobile devices are used for learning because every person has a mobile device in his or her pocket, which has more functions compared to a computer. With the use of mobile devices, especially tablets, in the educational environment, a need has arisen for how these devices can be used in language development and how they can contribute to language teaching; therefore, Mobile-Assisted Language Learning (MALL) has been put forward and has displayed the principles and tenets of the usage of mobile devices in language teaching. Those mobile tools allow both synchronous and asynchronous interaction and enable learners to access an infinite number of materials and applications that help them learn a foreign language. Even though some linguists are not keen on using mobile devices or any technological devices in the educational context, considering that they may be distractive, slothful, or inefficient, it is inevitable to include such devices and inexplicable to teach language without technological tools.



Figure 5 Mobile device usage in educational settings.

(Retrieved from <https://mytechdecisions.com/facility/interactive-technology-classroom/>)

Besides mobile devices like laptops, tablets, and smartphones, smart televisions and smart boards are currently used in educational contexts and considerably ease language learning. In most countries, classrooms are furnished with smartboards, which give educators the chance to teach a language interactively and authentically. In Turkey, in nearly all primary, secondary, and high schools, classrooms have been equipped with smartboards under the name of the Fatih Project. Different evaluations can be carried out for each subject matter, but for English, this project, namely putting a smartboard in each class, is a blessing. A smartboard in every classroom means that there is a large computer or smart television in every educational setting so that the teacher can provide countless amounts of input to his or her students. Smart boards, especially by appealing to visual and auditory learners, contribute greatly to the development of language students' listening skills directly and therefore their speaking skills. One crucial aspect of this, though, is that the teacher must have technological pedagogical and content knowledge (TPACK).



Figure 6 Smart board used in a primary school in Turkey

3. Models of Technology Integration

Although the use of technology in the educational setting is significant, it is also very important to know how to integrate technology into education correctly. Technology is widely used in all areas of our lives, such as transportation, communication, housework, etc. Although we are all intertwined with technology in our daily lives, we may not be well-informed about using technology correctly in an educational context, which requires a huge amount of knowledge of the subject matter and technology. The teacher may not know exactly which technological tools he will use with a certain subject, or which applications to use in which activity. Just knowing how to use technological devices is not the same as knowing how to teach with them (Mishra and Koehler, 2006). For this reason, some frameworks have been put forward to show how technology can be integrated into education. TPACK and SAMR are two popular frameworks of technology integration models.

a. TPACK

Mishra and Koehler (2006) put forward TPACK, technological pedagogical content knowledge, after a five-year study grounding their theory on Shulman's (1987) pedagogical content knowledge (PCK) theory. Teacher knowledge is a research area that many scholars have studied. Shulman came up with the idea that a teacher should have the necessary knowledge about the subject matter that he/she teaches and know how to teach it, that is pedagogy (1987). Mishra and Punya (2006) added technology to PCK

and put forward TPCK, which is now called TPACK. According to them, a teacher should have content, pedagogical, and technological knowledge, and they represented it in an intersecting Venn diagram, which caused the advent of pedagogical content knowledge (PCK), technological content knowledge (TCK), technological pedagogical knowledge (TPK), and technological pedagogical content knowledge (TPCK), besides content knowledge (CK), pedagogical knowledge (PK), and technological knowledge (TK).

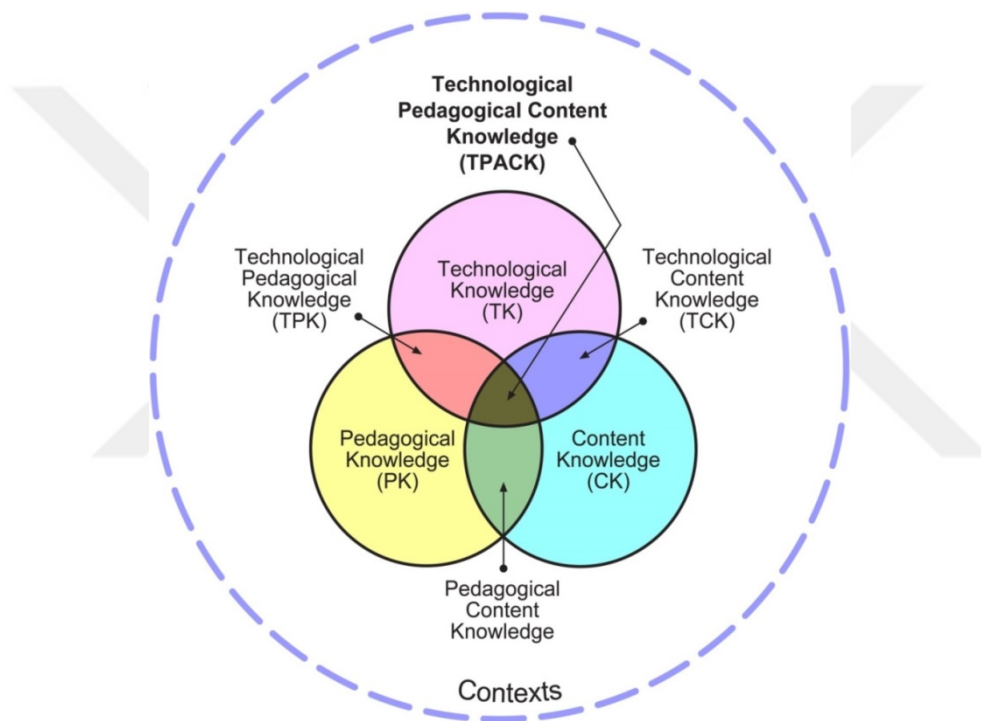


Figure 7 TPACK Venn diagram (retrieved from Tpack.org)

Content knowledge (CK) is knowledge about the subject matter. It is to know concepts, facts, and theories related to the subject matter. According to Olphen (2008), CK in languages refers to the knowledge of the language (fluency and accuracy and knowing the culture) and about the language (SLA theories).

Pedagogical knowledge (PK) is the knowledge about how to teach. PK is a broad understanding of the processes, practices, and strategies used in teaching and learning (Mishra and Koehler, 2006). All of the issues related to students' learning, classroom management, and the improvement and application of lesson plans are associated with pedagogical knowledge. Since it's generic in all kinds of teaching, there is no difference

in its application in EFL.

Technological knowledge (TK) is general knowledge about the hardware and software of educational technological tools like smartboards, computers, laptops, mobile devices, and any other technological gadgets used for education. Since technology is changing rapidly, teachers should be ready to adapt to new technological improvements.

Pedagogical content knowledge (PCK) is to know which strategy or method fits a particular subject matter. In the point of language teaching, PCK involves methods and approaches of second language acquisition like the Audio-Lingual Method, Communicative Language Teaching, and the Natural Approach etc.

Technological content knowledge (TCK) is about how content can be conveyed to students easily and efficiently with the help of appropriate technological tools. Technology, according to Mishra and Koehler (2006), can make the subject matter more accessible to the learner. In terms of language teaching, speaking can be improved with songs and videos via computers, laptops, or mobile devices, which is inconceivable without technology. Additionally, thanks to word processors, writing activities can be done in a more organized and proper way, rescuing teachers from the torture of reading illegible handwriting. All language activities can be considered concerning this point.

Technological pedagogical knowledge (TPK) is about how technological tools can be utilized in students' learning, classroom management, and lesson plan improvement. It is also related to how teaching strategies can be improved thanks to technological development and via technological devices. In language education, it is the knowledge hot to choose the appropriate technological tools for classroom management and lesson planning.

Technological pedagogical content knowledge (TPCK), a combination of technology, pedagogy, and content knowledge, includes knowing how to integrate technology into the classroom (Mishra & Koehler, 2006). In language teaching, TPACK is the knowledge of using technological devices appropriately to improve students' communicative competence.

TPACK is a very essential framework in terms of education and technology relationships. For a teacher to be good in his field, he must have technological

pedagogical and content knowledge. He should discern very well the features of technological tools that are operated in his field and be aware of how influential using these tools is in his course.

b. The SAMR model

SAMR is a four-stage model that explains how to implement technology as a supportive tool in face-to-face education. The model was developed as a framework by Ruben R. Puentedura in 2006 to classify and evaluate activities done via technological devices. The goal of the model is to encourage educators to enhance the use of technological tools in and out of class to provide a useful education. The SAMR is mostly applicable to distance learning and blended learning. According to the model, some of the activities can be done outside of the class with technological gadgets to save time for in-class activities. It not only saves time but also prevents the wasting of resources. For instance, instead of printing out 80 papers for a class exam, it is recommended to apply for an online exam, which is more eco-friendly, time-saving, and simpler. The four stages of the model are substitution, augmentation, modification, and redefinition. According to Puentedura (2013), the first two stages of SAMR involve *enhancing* learning, whereas the last two stages *transform* learning. To clarify the SAMR model, each step will be defined and exemplified. Even though the SAMR model is a framework for technology usage to enhance learning, Hockly (2013) recommends using the SAMR model, particularly for mobile device usage in an EFL context; therefore, most of the examples are given for social sciences.

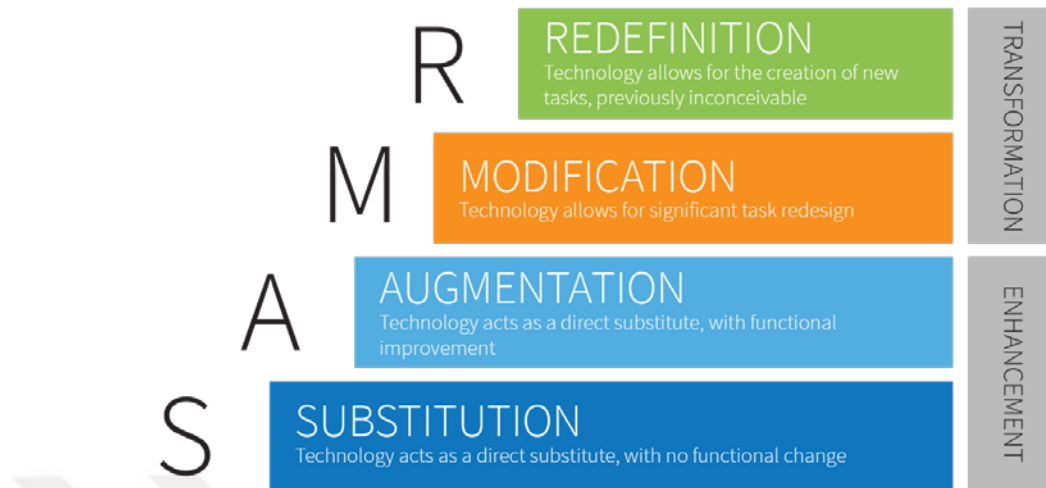


Figure 8 SAMR Model

Substitution: At this stage, technology acts as a direct substitute without any changes. An activity that is done in class without technology is applied with a technological tool without any differences. For example, an online exam can be held instead of a face-to-face exam, or an e-book can be utilized rather than a printed course book. Using a digital whiteboard instead of a physical one or simply using a Microsoft Word or Google document instead handwriting are examples of substitution.

Augmentation: Technology is a substitute but with some functional differences. Students can do some activities without the teacher's help, so it is more student-centred. For example, students who write articles with Google Docs can check spelling mistakes, add pictures to their articles, or use a digital dictionary.

Modification: Technology allows some significant changes in tasks. Students can make podcasts or videos on a topic they have learned, or they can collaborate on a shared document via a learning management system. This stage is important for the creation of different tasks and interactions between the students.

Redefinition: Something which is not possible to do with traditional education is created at this stage. Students share their tasks with other people or with the world via a technological tool. For example, students can write an article about a social problem and share it on their blog, or they can produce a solution video about an environmental problem and share it on their YouTube channel.

B. Mobile-Assisted Language Learning (MALL)

As inexpensive and high-capacity mobile devices penetrate all areas of society, it is estimated that they will comprehensively alter the process of e-learning (Miangah and Nezarat, 2012). Before the invention of mobile devices, technological tools were still used in the classroom as supporting materials, and teaching generally occurred in this context. However, handheld devices have made teaching and learning spontaneous and individualized. Wherever one has a mobile device and an internet connection, one can search and learn new things. A formal classroom environment is not necessary anymore for learning a new language; individuals can find online resources or online teachers from any part of the world to study a language together.

In this part of the chapter, the emergence and historical development of MALL, its definition, and the theories of MALL will be explained.

1. Historical Development: From CALL to MALL

As new technological devices are invented, their reflection occurs in any field. Second and foreign language learning is one of these fields and they are mostly influenced by technological development because utilizing multimedia is fairly significant in language learning. In the 1980s, computers were used for their potential in educational contexts, and those years saw the appearance of Computer-Assisted Language Learning (CALL) (Chapelle, 2001). Egbert (2005) defines CALL as learning a language by using computer technologies. With the advent of CALL, a new era started in language learning and teaching. Developing day by day, computers have provided many opportunities and have facilitated learning of the target language. Interaction, which was not possible with Web 1.0, has become feasible with the invention of Web 2.0. As technology advanced, new software was added to computers and many web pages emerged, enabling language learning outside of the classroom and more autonomously.

Computers are still actively used in education; however, they will be replaced by more functional and practical mobile devices in a very short time. Mobile devices such as tablets and smartphones, which emerged in the 2000s, have penetrated all areas of society in a very short time. Mobile devices containing applications that support

language learning are also used for many purposes, including educational purposes. With the use of mobile devices for language learning, a new language learning theory, Mobile Assisted Language Learning (MALL), has emerged. Mobile Assisted Language Learning (MALL) focuses on learning a language with lightweight mobile devices such as tablets and smartphones. Today both CALL and MALL are central to the language learning environment, but time will tell which will be the more dominant and trending method in the future.

2. What Is Mobile Learning?

Kukulska-Hulme and Shield, focusing on the portability of mobile devices, define Mobile-Assisted Language Learning (MALL) as “the use of personal, portable devices that enable new ways of learning, emphasizing continuity or spontaneity of access and interaction across different contexts of use” (2008, p. 273). Traxler & Kukulska-Hulme, who have completed multiple studies in this area, express that mobile learning is the use of portable electronics like tablets, PDAs, and cellphones for learning inside or outside of the classroom (2007). Although most researchers have described mobile learning simply as learning with portable technological devices, some associate it with learning while on the go. O’Malley et al. (2003) do not limit mobile learning to the portability of devices but describe it according to the mobility of learners stating that mobile learning is any type of learning that occurs when the learner is mobile. It is understood from these descriptions that although there is no precise definition of mobile learning yet, portability is an important keyword in explaining mobile learning.

Mobile devices, which first appeared in the early 2000s, quickly spread all over the world and started to be used by many people. Mobile devices such as smartphones and tablets, which are used extensively in daily life, have become an indispensable part of our lives in a very short time. Although mobile devices contain many functions, the way people use these devices differs according to their age. Because they are digital natives and were born into advanced technology, the capabilities and expectations of the new generation differ slightly from those of previous generations. Children can use technology much better than their parents, and their expectations from the education system include more technology. They preferred to read from their mobile devices

whenever and wherever they wanted, rather than visiting the library or purchasing a book. A systemic change in the field of education is unavoidable because the younger generation is so entwined with digital technology and uses it in every field. The educational system is revolutionizing from the traditional system toward Blended Mobile Learning, a system where mobile devices are regularly used as supportive tools in formal education, even though face-to-face learning is still used in many educational settings and is a time-tested, effective, and enjoyable teaching method.

Many studies have shown that using mobile devices in non-formal education is very effective in learning and teaching outside of the classroom (Alemi et al., 2012; Saran and Seferolu, 2010; Thornton and Houser, 2005; Başoğlu and Akdemir, 2010; Suwantarathip, 2015; Wang and Shih, 2015). Students can individually learn a new language to a good level by downloading and benefiting from language-teaching applications, but the inclusion of mobile devices into formal education that teaches the language more academically and follows the rules will make face-to-face education much more enjoyable. Mobile devices can be adapted to the education system, as there is a large number of mobile device users, most of whom have multiple handsets (Statista, 2016), and most research has shown their usefulness.

All students could receive high-quality education with the help of mobile technology, according to Mohammed, Assam, and Saidi (2020). Mobile learning has become ingrained in some educational systems around the world over the past 20 years. The portability, personalization, and universality of mobile devices make them ideal for use in educational systems (Sharples, 2011). Several countries, including Qatar, Brazil, Thailand, South Korea, and the United Arab Emirates, have already incorporated mobile technology into their educational systems (Ally, 2013). Turkey provided tablets to high school students in 2015, allowing them to use them both inside and outside of the classroom. While mobile devices are increasingly being used in classrooms around the world, some educators are wary of their use in formal education because they fear that they could disrupt the learning environment. Teachers typically hold the opinion that learning can take place in well-organized and disciplined classes. However, since it is impossible to keep the younger generation away from their phones, educators should change their views and prepare for a technologically advanced classroom where students

use personal mobile devices.

The usage of technological devices in the educational setting is a necessity. We can accept students who come to the classroom with their laptops and mobile phones as long as we are aware of the disruption they will cause to traditional teaching methods and how to manage it. This is not a justification for the idea that since kids are equipped with new technologies, education must change to accommodate them. Learning makes more sense with technological gadgets. Effective learning fundamentally requires the ability to generate and explore knowledge, communicate and collaborate with peers, and manage one's learning (Sharples, 2002).

The three most notable characteristics of mobile learning are its personal, pervasive, and ubiquitous nature (Sharples, 2002). Since almost everyone has a personal mobile device, the person can direct his education without the dominance of any authority; that is, the individual can learn on his own, without the help of a teacher or an expert. Besides, since mobile devices reach almost every segment of society, no one is deprived of learning, and everyone can search for the subject they are curious about on the internet and reach the necessary information in a short time. Moreover, mobile learning is ubiquitous: no scheduled schedule is required, and learning can take place anytime and anywhere without time or place constraints. Every time one connects to the internet, there is a chance to learn something new and it is possible to learn anytime, anywhere, and without a formal learning environment thanks to mobile devices.

As a result, learning is a never-ending action that continues throughout life. Besides formal learning in the classroom, much of the learning takes place informally, outside the classroom, and with no time constraints. With technological advances, especially with the invention of mobile devices, learning mostly happens on the go when a person is mobile. Since mobile devices are personalized and portable, learning can take place anywhere, but people with a learning disposition need to have strong self-authority and will because there are thousands of apps in the App Store and Google Play Store, and not all of them are educational; the number of applications for entertainment purposes is even higher. Since there is no authority to control the learners and there are many distractions on these devices, the learner must control himself to spend time on the

educational apps. However, in a learning environment where mobile devices are included in formal education, the student can go a long way thanks to Blended Mobile Learning, as the teacher will also support the student in controlling himself or herself.

a. Mobile devices

Mobile devices, such as phones, smartphones, tablets, personal digital assistants (PDAs), and other handheld gadgets, are used by people for a variety of purposes, such as communication, information gathering, entertainment, and so forth. There are many kinds of mobile devices, and the most commonly used mobile devices are displayed in Figure 9.



Figure 9 The most commonly used mobile devices

Mobile devices come in a variety of shapes and sizes, allowing users to choose the ones that best suit their requirements and budget. The only criticism levelled at mobile devices was their small screen (Stockwell, 2010), but thanks to technological advancement, this criticism is no longer valid.



Figure 10 The evolution of the mobile phone

Operating systems, which are the most crucial piece of software for mobile devices as they control all other software and hardware, are what make mobile devices function. The two most widely used operating systems are iOS, created by Apple Inc., and Android, developed by Google. Android holds a 75% market share, compared to iOS's 24%, according to Statista (2020). Today, the number of mobile users is 5.28 billion, which makes up 67.95% of the world's population (bankmycell, 2020). Among those mobile devices, the biggest share belongs to smartphones, with 3.5 billion used in the year 2020 (Statista, 2020).

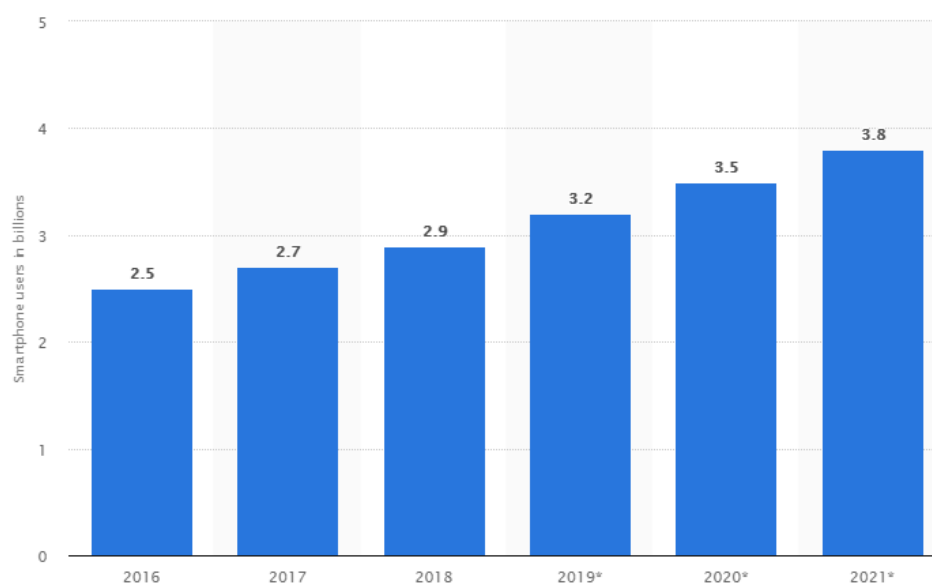


Figure 11 Smartphone users worldwide 2016-2021 (Statista, 2020)

It can be foreseen that these numbers will increase due to the high temptation of mobile devices. In a very short time, nearly everyone will have a mobile device, while some will have more than one. As shown in Figure 12, the number of mobile devices is getting higher and higher in the world.

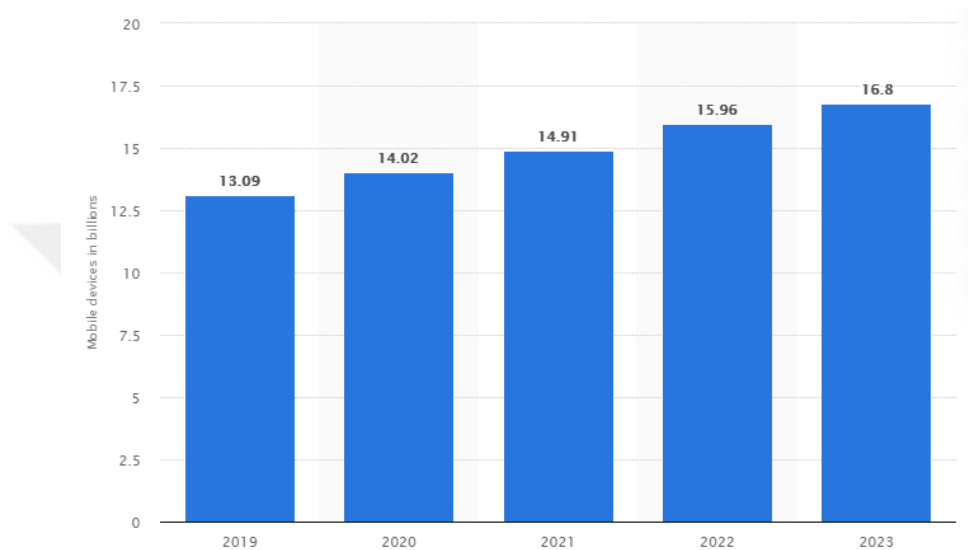


Figure 12 Forecast number of mobile devices worldwide from 2019 to 2023

(Statista, 2020)

b. Features of mobile devices

Portability: There are many features of mobile devices. Their most remarkable aspect is that they are small, light, and portable. It is quite easy to take them with you anywhere you want. In contrast to computers, one can carry mobile devices in one's pocket or bag for a long time because they are lightweight. Being portable, mobile devices enable learning to happen spontaneously at any time and any place.

A source of materials: When combined with the internet, mobile devices are quite attractive to educators for their access to numerous educational tools (Traxler & Kukulska-Hulme, 2007). Besides making education more individualized and ubiquitous, mobile technologies give immense access to a rich world of resources and increase learners' achievement (Power, 2019). Thanks to mobile devices, a learner can access numerous educative applications in the Google Play and App Stores and can get plenty of educative videos and a great number of reading materials. The language skills of learners can be seriously improved thanks to this aspect of mobile devices. For instance,

by providing thousands of videos, songs, and podcasts in the target language, a mobile device is a substantial resource for listening skills. Also, enabling chat in a foreign language is a great feature of mobile devices. Most importantly, including thousands of reading texts in the target language, which support vocabulary and grammar development, is an incredible aspect of these tools.

Usability: The usability of a device is one of the determining factors for a beneficial teaching and learning process. If a tool is usable, it means that it is not complicated to use it. Today, mobile devices are so usable that even a child can easily utilise them. According to Kukulska-Hulme (2005), usable devices are usually accepted as being simple to find out, effective to utilise, proficient and pleasant from the user's point of view. To create user-friendly gadgets, producers should focus on different aspects such as the psychology of the users as well as the cost and practicality of the device. From a pedagogical perspective, so as to be usable, a device should provide a qualified interaction and a good training opportunity. For tablets, the only shortcoming is the lack of a call function, and for smartphones, the small screen is a disadvantage compared to computers.

Affordable: Even though there are quite expensive mobile devices, they are usually available for different budgets. As their sizes and capacities vary, so do their prices, so anyone can find an affordable mobile device. Being affordable allows every sector of society to have mobile devices so that learning can happen in a non-school environment, too.

c. Functions of mobile devices

The modern mobile device offers many options, such as web browsing, photo and video capture, geo-location positioning services, and so on (Bohmer et al., 2011). As a result, they are more than "simply cellphones" because they allow for more than just making and receiving phone calls and sending and receiving texts (Bouca, 2012). Checking e-mails, listening to music, watching videos, and searching on the Internet, which can be done with a computer, can easily be done with mobile devices without any restriction of time and place. Thanks to their numerous functions, you can take photos of a landscape you like, find your way and not get lost, send or receive money when you

need it, play games when you are bored, or research a subject when you are curious. The functions of a mobile device are shown in Figure 13.

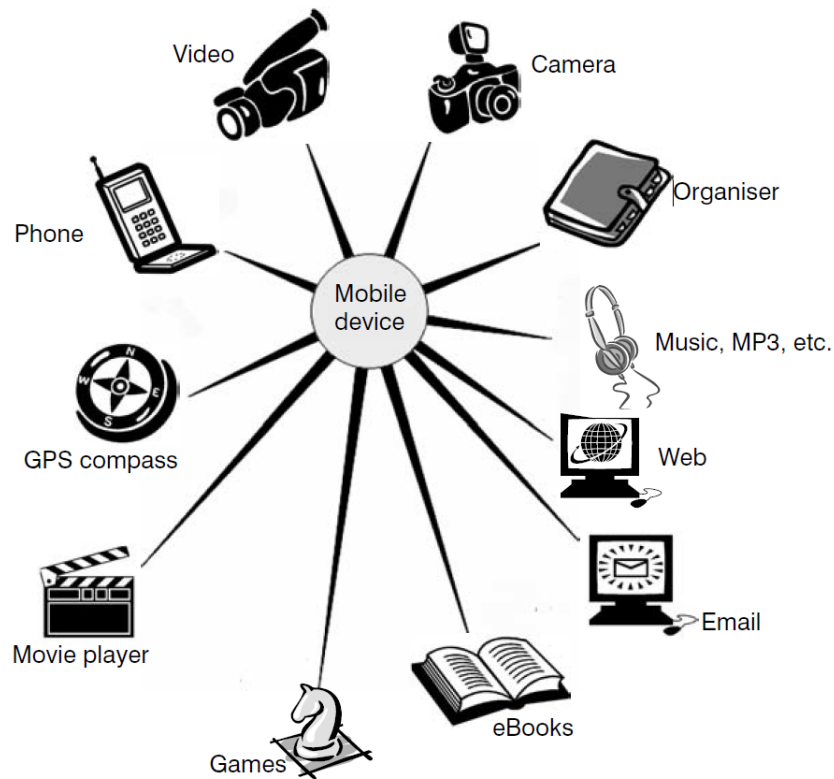


Figure 13 The functions of mobile devices (Trinder, 2007).

Mobile devices have a lot of functions, such as voice and video recording, calculating, texting, sharing information, and so on. They greatly affect human life. Besides having a lot of applications, the most interesting aspect of mobile devices is that they are with you wherever you go. Being portable and having access to the internet everywhere enables human beings to access information wherever and whenever they want. Those who aim to learn a new language can get videos, read passages, listen to podcasts, and do vocabulary-building activities no matter whether they are in a hospital, at school, on a bus, or at home.

Trinder (2004) classified the reasons for using smartphones under five main headings: organization, communication, relaxation, information, and application. Figure 14 depicts what can be done with these portable and personal computers. Although he created these classifications in 2004, the things that can be done with mobile devices are

largely still the same, with some small variations. Besides providing spontaneous communication and collaboration, they enable voice and video recording and sharing. These handheld devices are like small televisions and allow for video watching and music listening. They are also a library, supplying any kind of reading material, from articles to books. In addition, mobile devices include all kinds of games, which may be a source of learning and entertainment.

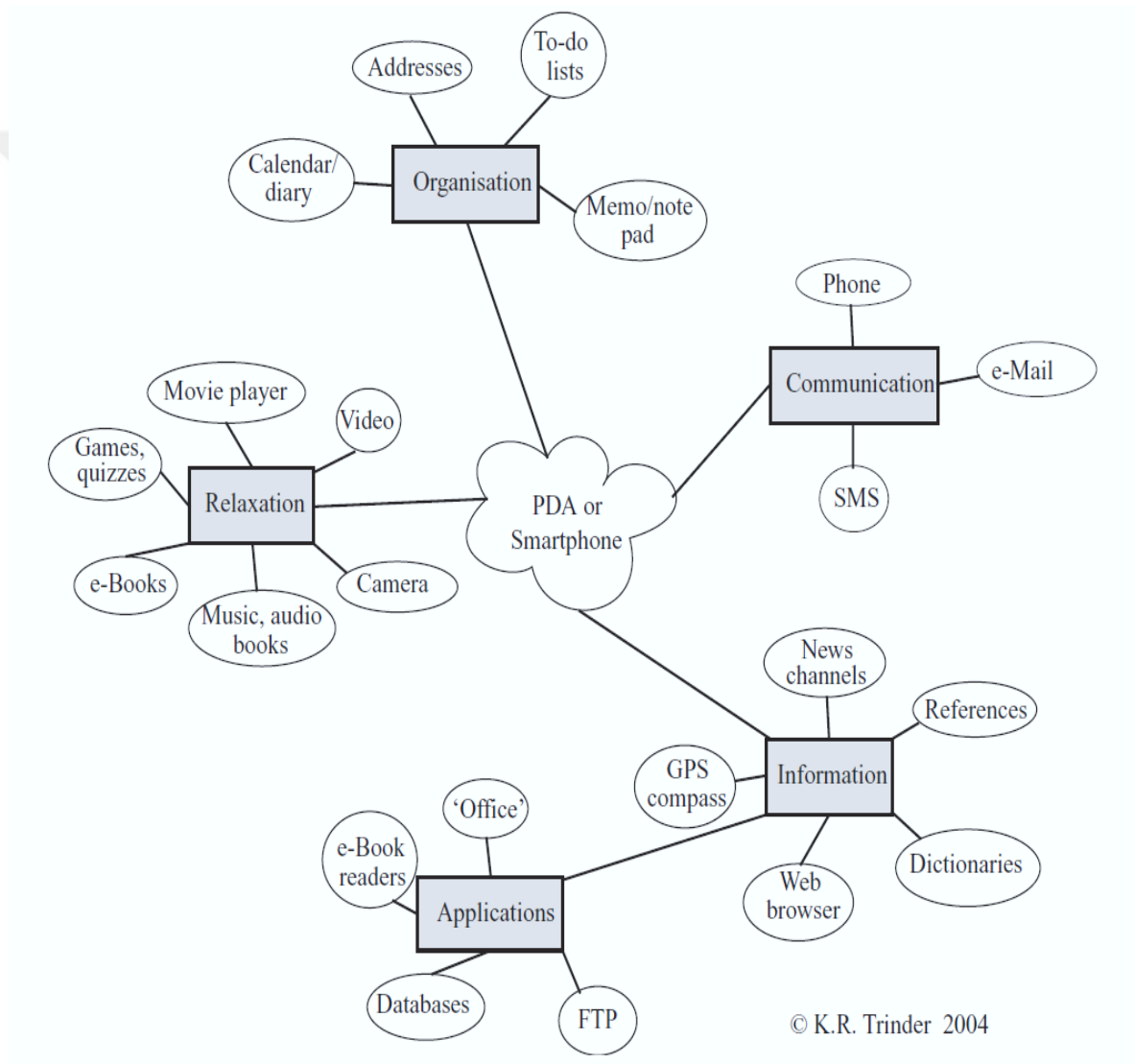


Figure 14 Reasons for using mobile devices

3. Theories of Mobile Learning

According to Luis and D'Cunha (2014), a learning theory is a theoretical structure used to comprehend and frame how knowledge is received, processed, and stored during learning. To apply a good pedagogical theory, it is critical to take into account how theory supports learning activities. It is particularly crucial when implementing emerging technologies, like digital technology, to make sure that the activity is driven by learning rather than the tool. Mobile technologies have developed rapidly in recent years and have become very suitable tools for learning and teaching. The great number of mobile-device-users makes educators want to put these devices into education; however, it is not easy to adjust the accustomed traditional classroom to highly technological platforms. There should be a proper design or methodology that is suitable for both teachers' expectations and students' needs. Whether students and teachers are willing to face and utilise these devices in the classroom or whether these devices are applicable in terms of affordance, cost, and usability are questions to be answered. Fortunately, many studies have been done on these controversial aspects since the 2000s, and they have been published as articles and books.

Researchers put forward some theories so as to answer the questions: how to use mobile devices in and out of the classroom; what are the principles of mobile learning; and how can one best benefit from mobile devices? Several theoretical frameworks for mobile learning have been described, including Sharples, Taylor, and Vavoula's (2006) framework for analysing mobile learning, Laurillard's (2013) Conversational Theory, and Koole's (2009) Framework of Rational Analysis of Mobile Education. However, these frameworks are not learning theories; instead, they serve as methods for evaluating and framing mobile learning activities within the broader context of mobile learning (MacCallum & Parsons, 2016). According to Keskin et al. (2011), there are many learning theories, as described in Table 2, which are applied to mobile learning.

Table 2 Mobile Learning Theories (Keskin and Metcalf, 2011)

Theories	Definitions	Focus	Examples with mobile technologies
Behaviourist Learning	Learning has occurred when learners evidence the appropriate reinforcement of an association between a particular response and stimulus (Smith and Ragan, 2005).	Information and content delivery in mobile learning Language learning: Test, practices, quiz, listening-practice speaking Drill and feedback: Mobile Response System Content delivery by text messages.	English learning applications, SMS, MMS, Voice recorder software, Mobile Response System: Qwizdom, Turning Point Response System Tell me tech. (searching)
Cognitivist learning	Learning is the acquisition or reorganization of the cognitive structures through which humans process and store information (Good and Brophy, 1990).	Information and content delivery in mobile learning Using Multimedia learning (Dual code, Cognitive Load Theory): Images, audio, video, text, animations	Multimedia (text, video, audio, animation, images) SMS, MMS, e-Mail Podcasting Mobile TV
Constructive learning	Learning is an activity process in which learners construct new idea or concepts based on their current and past knowledge (Bruner, 1966).	Context and content- dependent mobile learning Questions for Exploration Cases and examples Problem solved and Decision making applications Multiple representations Authentic contexts based information database Collaboration and interaction in mobile learning Collaboration and interaction between students Communication via mobile phones	Handheld games Simulation Virtual reality Interactive Podcasting and SMS Interactive mobile TV and SMS
Situated learning	Learning is not merely the acquisition of knowledge by individuals, but instead a process of social participation (Brown et al., 1989).	Social Context and Social participant dependent mobile learning Authentic domain activity Collaborative social interaction Cooperative activities Expert modelling Situated mentoring Workplace learning	Natural science learning Medical education Multimedia museum Virtual experts by artificial intelligence tech. Mobile performance support system

Problem-based learning	Learning aims to develop students' critical thinking skills by giving them an ill-defined problem that is reflective of what they would encounter as a practicing professional (Koschmann et al, 1996).	Problem based context and solved based content- dependent mobile learning Problems – Solutions Case centred activities Collaborative social interaction	Medical education Business administration Nursing Simulations SMS MMS Voice response systems
Context awareness learning	Context awareness means gathering information from the environment to provide a measure of what is currently going on around user on the device (Naismith et al, 2004).	Context aware in mobile learning Context-dependent content management Contextual event notification Context-aware communication Navigation and retrieval of learning materials User interface adapted according to time and location contexts	Multimedia museum and gallery Pre-class podcasts Films e-books Podcasting
Socio-cultural theory	Learning occurs first through interpersonal (interaction with social environment) than intrapersonal (internalization) (Vygotsky, 1978).	Social Context and Social participant dependent mobile learning Mobile experts Community of practice Workplace learning Mobile communication	Mobile performance support system Virtual experts Mobile forum, E-mail Social network (Web 2.0 tools)
Collaborative learning	Learning is promoted, facilitated and enhanced by interaction and collaborations between students.	Collaboration and interaction dependent mobile learning Actively participation Social context Communication between peers via mobile phones.	Mobile Assisted Language Learning Mobile Response System Mobile computer supported collaborative learning Forum, Web 2.0 tools, e-mail, mobile portal, games
Conversational learning	Learning is in terms of conversations between different systems of knowledge (Sharples, 2002).	Interaction and communication dependent mobile learning Solving a problem Exploring an environment Communication between peers via mobile phones.	Laboratory classes Field trip Mobile computer supported collaborative learning Calling, Interactive Voice Respond (IVR)
Life long learning	Learning happens all the time and is influenced both by our environment and the particular situations we are faced with (Sharples, 2000).	Lifelong information and interaction with education content in mobile learning Podcasting Information resources Mobile web site	Social networks (Blogs, Wikipedia, Twitter, YouTube) Podcast E-mail Mobile Forums

Informal learning	Learning is a process of learning that occurs autonomously and casually without being tied to highly directive curricula or instruction (Vavoula, 2004).	Information and interaction with education content in informal mobile learning setting Mobile information resources Mobiles in a museum setting Field Trips Science Field Work	Social networks (Blogs, Wikipedia, Twitter, YouTube) Podcast E-mail Mobile Forums
Activity theory	Learning occurs with three features-involving a subject (the learners), an object (the task or activity) and tool or mediating artefacts and human behaviour is situated within a social context that influences their actions (Vygotsky, 1987).	User actions in social context dependent mobile learning Actively participation Social context Activities	Museum Art Gallery exhibit via SMS, polls, calling Mobile Games Multimedia
Connectivism	Learning is process of connecting specialized nodes or information sources (Siemens, 2004).	Diversity of information sources in mobile learning Connecting specialized nodes Information sources Facilitate continual learning environment Knowledge management activities Decision-making	Social networks (Blogs, Wikipedia, Twitter, YouTube) Podcast E-mail Mobile Forums Discussion Platforms Podcasting
Navigationism	Learning is a process of connecting specialized nodes or information sources (Brown, 2005).	Complex of information sources in mobile learning Connecting specialized nodes Information sources Facilitate continual learning environment Knowledge management activities Decision-making Manage information (identify, analyse, organize, classify, assess, evaluate, etc.) Sense making and chaos management.	Social networks (Blogs, Wikipedia, Twitter, YouTube) Podcast E-mail Mobile Forums Discussion Platforms Podcasting
Location based Learning	Location-based learning holds promise for just-in-time learning tied to a student's physical location (Johnson et al, 2009)	Location context in mobile learning Conceptual knowledge Conceptual application Constructive environment Partnership with location Immersive activities	Field trips Archaeology studies Location based game Virtual world Google Map, GPS, RFID, network triangulation

C. Blended Learning

In the traditional teaching system, the only method of teaching is face-to-face learning. Teachers come to their classes and teach for a previously scheduled period by generally lecturing and discussing the topic. Traditional teaching is commonly done inside the classroom, in which students are together for a long time so that they get to know each other very well, share and collaborate, yet primarily do not contact each other for learning after the course. If the teacher handles worksheets or gives

homework, students usually do it at home and bring it to the class in the next session so that the educator can give them feedback. Thanks to face-to-face education, teachers and students can share feelings and information more effectively.

On the other hand, distance education has been estimated to take the place of formal education, but in distance education, students cannot physically socialize with each other and they cannot get an emotional transfer from one another and the teacher. Gestures and mimes, which are pretty important factors in teaching, are not sufficient in distance education. Also, during distance education, instructors' class control and the concentration of students are somewhat influenced by external factors which may cause distraction. In 2020, because of the COVID-19 pandemic, in almost all parts of the world, education shifted to distance education, and the world had to give a break from its usual routines. Instead of face-to-face education, distance education was applied in most countries, and most students used their mobile devices and desktop computers to benefit from education. However, both instructors and students complain about full-time distance education, expressing a desire for traditional schooling and face-to-face instruction.

Both distance education and face-to-face education have advantages and disadvantages; thus, to get a quality education, a combination of both is required. The blending of different methods is a technique that good teachers apply. As indicated by Marsh (2012), the most efficient learning and teaching have always included the use of a variety of techniques and approaches to enhance skill development. A competent learner will always integrate many learning tactics; similarly, a good teacher would constantly employ multiple teaching strategies.

According to Kang (2010), teaching with blended learning is more beneficial compared to total distance or fully face-to-face education. In blended learning contexts, besides face-to-face learning in the classroom, students and teachers contact each other thanks to mobile devices without having a restriction of place and time. Students make use of the advantages of face-to-face learning while also getting the benefits of online education with mobile devices.

In the modern era, every individual has a mobile device, and keeping teenagers away from their mobile devices is nearly impossible. That is why educators are obliged to accept the use of mobile devices for the sake of education. Thanks to

mobile devices, teachers can create a beneficial learning environment with Blended Mobile Learning. In a learning context where BML is applied, students can socialize in and out of the class, cooperate, and learn new things from one another. After face-to-face education, teachers can give homework via a learning management system, and students can submit their tasks there, discuss the topic, or do group work. Blended learning also diminishes teachers' classwork and creates a learner-centred learning environment because of the supportive effect of mobile devices. What the teacher should do during blended education is be an organizer and observer rather than being a central figure. It is proven by many studies that student-centred education is more valuable and lasting for learners. Turbill briefly states the teacher's role as a "*guide on the side* rather than the *sage on the stage*" (2015, p.12).

To sum up, blended learning is quite attractive and motivating because it can fit into nearly any context and be suitable for any individual. With the blended method, education and learning are limitless, spontaneous, and more personal. Digital natives love technology and aim to use it as a solution in every part of life. Education is one of the contexts which will grow and improve with the great contribution of technology. Despite its distracting nature, using mobile technology in and out of the classroom is a necessity in today's world; however, completely relying on mobile devices for education or completely opposing their use is not an accurate method. Distance education on its own is not enough because of the lack of facial expressions, gestures, and emotional transfer, yet Blended Mobile Learning can combine the advantages of both face-to-face and online education.

1. What Is Blended Learning?

"Blended learning is a 'buzz' word in language teaching. However, it has been in use for almost 20 years, and its meaning has been constantly changing during this period" (Sharpe, Benfield, Roberts, & Francis, 2006, cited in Sharma, 2010, p.456). In the 1990s, the term "blended learning" was used for any kind of computer-assisted learning (Palalas, 2013). Its definition and usage are not stable and change as technology develops. Technology is rapidly changing in the modern world, which causes many amendments in educational systems and pedagogies. Even the same method may evolve in time due to considerable technological developments. Blended learning is generally defined as the utilisation of technology and traditional learning, but since new technological tools appear each day, pedagogical methods are also

evolving. Improvements in technology enable us to blend face-to-face education with online learning thanks to computers, laptops, and mobile devices. Although those technological tools can be used in class, they can also be utilised outside of the educational setting for ubiquitous learning, forming the basis of blended learning. In the 21st century, blending is one of the most popular learner-centred educational methods (Palalas, 2013), and blended learning is going to be the dominant teaching model of the future (Watson, 2008).

Blended learning is a term that is often used by educators and instructors; however, there is not a certain definition of it and its definition generally alters according to the context. One of the reasons why there is not a clear definition of blended learning is the rapidly and constantly shifting technology. With the constant development of technology and the appearance of new technological devices, the description of the term also changes. What is blended learning and what is changing according to situations and educators? In a review, Oliver and Trigwell (2005) summarize blended learning as the mixing of two or more different kinds of things.

The two most commonly cited definitions of blended learning in Google Scholar are those by Garrison and Kanuka (2004) and Graham (2006). According to Garrison and Kanuka (2004), blended learning is “the thoughtful integration of classroom face-to-face learning experiences with online learning experiences” (p. 96). Graham (2006) defines learning as blended when “Systems combine face-to-face instruction with computer-mediated instruction” (p. 5). Dziuban, Hartman, and Moskal define it “as a pedagogical approach that combines the effectiveness and socialization opportunities of the classroom with the technologically enhanced active learning possibilities of the online environment, rather than a ratio of delivery modalities” (2004, p. 3).

Even though there is not a clear definition of blended learning, commonly, it is described as the combination of traditional learning and online education (Graham, 2013; Allen and Seaman, 2010; Watson, 2008; and Garrison and Vaughan 2008). The term "hybrid learning" is also very common and is sometimes used instead of "blended learning." According to Olapiriyakul and Scher (2006), hybrid learning and blended learning point to the same thing, and they are used alternatively.

2. Types of Blended Learning

As was already mentioned, blended learning takes different forms depending on the context; it is used in different ways in higher education, K–12 education, and corporate education. For higher education, Twigg (2003) proposed the supplemental, replacement, emporium, and buffet models of blended learning. Rotation, Flex, Self-Blend, and Enriched Virtual Models for K–12 Education are proposed by Staker and Horn (2012). Rossett and Frazee (2006) assert Anchor Blend, Bookend Blend, and Field Blend for Corporate Training. With their explanation, Graham et al. (2014) charted all of these different types of blended learning.

Categories of Blended Learning Models

A. Higher Education Twigg (2003)	B. K-12 Education Staker & Horn (2012)	C. Corporate Training Rossett & Frazee (2006)
A.1 Supplemental • Supplemental online materials • Online quizzes • Additional online activities • Flexibility of online activities for computer lab or home A.2 Replacement • Reduction of in-class meeting time • Replacement of face-to-face class time with online activities • Flexibility of online activities for computer lab or home A.3 Emporium • Elimination of class meetings • Substitution of a learning resource center with online materials and on-demand personal assistance A.4 Buffet • Several learning options from which students choose	B.1 Rotation • Rotation among learning modalities, at least one of which is online • <i>Station Rotation</i>—rotations within a classroom • <i>Lab Rotation</i>—rotations within locations on a school campus • <i>Flipped Classroom</i>—rotation within a given course or subject including online remote (at home) • <i>Individual Rotation</i>—individually tailored rotation schedule for a course or subject B.2 Flex • Instruction primarily online in a classroom with customized F2F support when needed B.3 Self-Blend • Option of an entirely online course to supplement traditional courses B.4 Enriched Virtual • School experience mostly online with some on-campus enrichment	C.1 Anchor Blend • Introductory substantive face-to-face (F2F) classroom experience • Subsequent independent online experiences C.2 Bookend Blend • Introductory experience online or F2F • A substantive learning experience online or F2F • A conclusion that extends the learning into practice at work C.3 Field Blend • A range of instructional assets • Choice of when and where to use the assets as needed to meet work-related challenges • Availability of online instructional assets • A possible classroom experience as part of the mix

Source: Graham, C. R., Henrie, C. R., & Gibbons, A. S. (2014). Developing models and theory for blended learning research. In A. G. Picciano, C. D. Dziuban, & C. R. Graham (Eds.), *Blended learning: Research perspectives, volume 2* (pp. 13-33). New York, NY: Routledge.

Figure 15 Categories of Blended Learning models

3. Blended Mobile Learning

Today, the most important tools for online learning are mobile devices. Since digital mobile tools are being widely used around the world, mobile learning (M-learning) has been a major way of study in recent years. The way individuals communicate and interact with one another has changed as a result of new mobile devices and technology, which has a positive impact on mobile learning. Researchers at universities have studied the benefits of mobile learning in comparison to traditional learning techniques. Some institutions have started to integrate mobile devices with their educational systems. The use of mobile devices to support face-to-face education has led to the emergence of the concept of Blended Mobile Learning (BML), in which “mobile technology is used in conjunction with the traditional face-to-face classroom setting and other e-Learning tools” (Wong & Ng, 2018, p.797). According to Suartama (2019), BML “is a special form of blended learning and a term used to describe the learning opportunities where mobile technology supports situational learning activities and combines the mobility of students into the conception of learning opportunities” (p.6). There are many advantages of BML, like ubiquitous learning, visual learning, engaging learning, etc., which are explained in detail in the findings chapter of this study.

D. Vocabulary in Language Learning

It is necessary to provide an explanation of what vocabulary is before discussing its significance in language teaching. The term has been defined differently by various linguists. As an encyclopedic example, Hornby (2000) states that vocabulary is "all the words a person knows or uses; all the words in a particular language; the words people use when they are talking about a particular subject; and a list of words with their meanings." (p. 1447). Focusing on vocabulary's practical applications, Neuman and Dwyer (2009) state that it is "words we must know to communicate effectively; words in speaking (expressive vocabulary) and words in listening (receptive vocabulary)" (p. 385). On the pedagogical side of vocabulary, Ur (2012) focuses on the distinction between "vocabulary" and "word," explaining that the term "vocabulary" can consist of two or three words yet still convey a single meaning, as in the cases of “post office” and “mother-in-law”. She also emphasizes the difference between "vocabulary" and "word." She offers "items" as an alternative to "words" as a means of addressing all such situations.

The term "word" is not sufficient to describe vocabulary in a language because rather than individual units, there are idioms or phrasal verbs that describe a single idea. Consequently, multiple words with the same meaning were referred to as "lexical items" or "lexemes," for instance, *pass away* and *bite the dust* are synonyms for *die* but they are not separate words. According to Schmitt (2000, p. 2), a "lexeme" is a unit that "functions as a single meaning unit, regardless of the number of words it contains."

When learning a new language, having a vast vocabulary is important because vocabulary knowledge supports the four fundamental skills and enables the transmission and reception of messages, making it one of the most important components of language. Grammar was once thought to be more significant than vocabulary, but Wilkins (1972) asserted that "little can be conveyed without grammar; nothing can be conveyed without vocabulary" (p. 111). Vocabulary is the foundation of language, and learning the target language with little vocabulary is incredibly difficult.

Vocabulary teaching methods have changed a lot in the language learning process. In the language teaching process, many different strategies have been applied, and new strategies have evolved as time passes. When teaching was done using the Grammar-Translation method in the 19th century, words were typically taught along with their translation or a synonym. However, as the teaching method has altered and the Communicative Approach has become popular, the vocabulary teaching method also differs. Vocabulary has been taught in context, with flashcards and images. As technology develops, teaching techniques for vocabulary evolve, too. In the modern era, many applications are produced to be used on smartphones and computers to teach vocabulary.

1. The Importance of Vocabulary in Language Learning

Since the four skills of language learning cannot be practised without vocabulary knowledge, vocabulary development can be argued to be the beginning of language learning because limited vocabulary knowledge hinders target language learning. For a learner to be proficient overall in a second or foreign language (L2) and to communicate effectively, vocabulary knowledge is a crucial component (Nation, 2001). We need to be familiar with a wide variety of words to select the best ones to convey the meaning or concept we want to express. The importance of

vocabulary learning is emphasized by Schmitt (2000), who claims that "lexical knowledge is crucial to communicative competence and the learning of a second language" (p. 55). Highlighting the noteworthiness of vocabulary learning in second language acquisition, Krashen (1989) points out that "A large vocabulary is, of course, essential for mastery of a language. Second language acquirers know this; they carry dictionaries with them, not grammar books, and regularly report that lack of vocabulary is a major problem" (p. 440).

Although vocabulary development is important, it did not receive the necessary attention at the beginning of language learning. Though it hasn't received the attention it merits (Gairns & Redman, 1986), its significance is slowly coming to light. Furthermore, because the majority of the time is spent either translating thousands of words into their target language or memorizing them in isolation, Gairns and Redman (1986) refer to this lack of cognition as being of "quality, not quantity." The necessity of vocabulary learning was quickly realized. Researchers like Laufer (1986) and Nation (1990) have emphasized the value of learning vocabulary, claiming that many learners' difficulties, both receptively and productively, are caused by a lack of vocabulary. Even when learners have higher levels of language proficiency and performance, they still feel the need to learn vocabulary. In debates about learning a language, vocabulary has taken on a fundamental and necessary position. The discourse-based language teaching method (Carter and McCarthy 1988), the lexical phrase approach (Nattinger and DeCarrico 1992), the lexical approach (Lewis 1993, 1997), and the lexical syllabus (Sinclair and Renouf 1988; Willis 1990) are just a few of the new approaches that have been developed about teaching vocabulary and the function of vocabulary in language learning.

Additionally, vocabulary learning is quite difficult since there is no certain and exact strategy for improving it. As stated by Oxford (1990), since there are tens of thousands of diverse meanings, vocabulary is the most unmanageable constituent of language learning, whether in a foreign or native language. Thus, vocabulary development is not a quick and sudden process but requires frequent exposure, particularly for adults (Schmitt, 2000).

Mastery of a lexical item does not merely include getting the meaning of the item. According to Nation (1990, p. 31), a person needs to master the following types

of information in order to learn a word fully, which is called "word knowledge."

- The meaning(s) of the word.
- The written form of the word
- The spoken form of the word
- The grammatical behaviour of the word
- The collocations of the word
- The register of the word
- The associations of the word
- The frequency of the word

2. Types of Vocabulary

Hatch and Brown (1995) defined word types as receptive and productive. Words that are learned and frequently used in speaking or writing are referred to as productive words, whereas words that are familiar when they appear in context but are not frequently used are referred to as receptive words, linked to listening and reading. Aebersold and Field (1997) classify vocabulary as active or passive. As understood from the name, active words are the ones that are used actively while producing language, and passive words, similar to receptive words, are known but not used actively. It can be concluded that active and passive are alternative terms for productive and receptive. People are supposed to learn words receptively first via exposure to language and subsequently produce them via speaking or writing (Schmitt, 2000).

3. Vocabulary Development in a Foreign Language

Vocabulary learning can be incidental or intentional (deliberate) (Nation, 2001). Whereas the latter refers to activities primarily done to learn new vocabulary, the former refers to vocabulary development that happens without a deliberate focus on learning vocabulary. Nobody can say one way is right and the other is wrong. It depends on the learners' learning styles, grade or level, type of target words, and many other issues. According to Schmitt (2000), a well-structured vocabulary teaching program should include a balanced combination of explicit and incidental learning. For intentional or explicit vocabulary learning, the main goal is to increase vocabulary knowledge with different activities like word lists or purposeful reading and listening. However, for incidental vocabulary development, one should be exposed to a great number of words via listening or reading.

Intentional Learning: Even if there are not many studies that show the benefits of deliberate teaching of vocabulary (Nation, 2005), sometimes teachers may wish to focus on words intentionally and individually. In his Direct Teaching Approach, Nation (2005) explains that instructors should spend their time teaching high-frequency words that are commonly used and needed by students. While teaching a word, the first decision to make is whether the term is worth spending time on. If the word is a low-frequency word that is not a valuable technical term or one that the learners will not find useful, it should be dealt with rapidly. Teachers should be aware of the learning burden of a word, especially when they are spending time on teaching vocabulary deliberately. “Part of effective vocabulary teaching involves figuring out what needs to be taught about a word. This is called the learning burden of a word” (Nation, 2005, p.2).

Meaning	Form and meaning Concept and referents Associations	Is the word a loan word in the L1? Is there an L1 word with roughly the same meaning? Does the word fit into the same sets as an L1 word of similar meaning?
Form	Spoken form Written form Word parts	Can the learners repeat the word accurately if they hear it? Can the learners write the word correctly if they hear it? Can the learners identify known affixes in the word?
Use	Grammatical functions Collocation Constraints on use	Does the word fit into predictable grammar patterns? Does the word have the same collocations as an L1 word of similar meaning? Does the word have the same restrictions on its use as an L1 word of similar meaning?

Figure 16 Discovering learning burden (Nation, 2005)

While discovering the learning burden of a word, the meaning and usage of the word should be in mind, and some kinds of questions, as in Figure 16, should be considered by the teacher. The main goal of working on the learning burden is to discover the aspects of the words in which students may have difficulty and spend much time on those aspects while teaching the words. As an example, we can assume that the word "psychology" /saɪˈkɒlədʒi/ is going to be taught to Turkish learners. In Turkish, the word used for it is "psikoloji," which is borrowed from French. The

word is formed from psycho-logy affixes, and the /p/ is a silent letter, which makes the pronunciation of the words really difficult since there are no silent letters in the Turkish language. The spelling of psychology is also quite difficult because five consonants are used together without any vowel combination; however, in Turkish, at most three consonants can be used next to each other, particularly with affixes. "Psychology" is a noun in both languages, so there is no restriction on its usage. After this analysis, it can be concluded that the learning burden of the word "psychology" for Turkish learners is about its form, that is, the pronunciation and spelling of the word. Consequently, while the teacher teaches this word, s/he should work out the form of the word "psychology."

Some principles to apply while teaching vocabulary deliberately as indicated by Nation (2005) are:

- To keep vocabulary teaching simple and not provide intricate clarifications.
- To connect current teaching with students' previous learnings
- To utilise both verbal and written explanations- clarifying but also writing to the board
- To pay close attention to the items that are partially acknowledged
- To ask students to note if it is a high-frequency word
- Provide synonyms or antonyms among the words that students already know

Attention is important while learning a word purposefully. To ensure learning the meaning and form of the word accurately, students need to be exposed to it again and again (Nation, 2005). To remember previously learned words, students can focus on two or three aspects of the word, like spelling, pronunciation, meaning, or parts of the vocabulary. They can also read or listen to graded stories at their level, or do some speaking or writing activities, including the vocabulary they are taught. Finally, revision of the learned words once a week is crucial (Nation, 2005).

To conclude, according to the Direct Teaching Approach, there are two main points of intentional vocabulary teaching. The first is that if the word is a high-frequency and useful one, teach it in detail, focusing on its learning burden, and if it is a low-frequency word, cover it by just making a brief explanation about it.

Secondly, be clear and simple while teaching vocabulary, and pay attention to revision.

Incidental learning: Although Nation (2001) remarks on the importance of explicit vocabulary teaching, it is not easy to teach a great number of words in class. According to some researchers (Laufer, 1998; Nation, 2006), learners should have knowledge of at least 5000 words to understand a nontechnical text, which is impossible to teach inside the classroom borders. Therefore, outside of the classroom, as homework or extensive study, learners should be exposed to lexical items because it is expected that ESL/EFL students may need to read a text of 200,000 words to acquire 108 words from context (Laufer, 2003). It is known that expanding vocabulary knowledge can be done mainly through extensive reading and listening, which provide highly rich input. According to the Communicative and Natural Approach, being exposed to comprehensible input is the prime way of improving target language knowledge (Krashen, 1989), and by exposing comprehensible input, students' lexical knowledge will enhance without purposefully focusing on vocabulary learning. Similarly, extensive reading and listening that are slightly above learners' levels help implicit vocabulary development to a large extent.

4. Vocabulary Learning Strategies

While it was a neglected area previously, there was an explosion in SL vocabulary studies in the 1990s and early 2000s. Many books were published about vocabulary teaching methods in second language learning. During the GTM period, students had to memorize lists of individual words with their definitions next to them, which became an old-fashioned method in the 1990s. Throughout that period, word lists and word cards were among the most commonly used vocabulary teaching tools. In these tools, the lexicons to be learned are given on one side while their translations are presented on the other; thus, learners carry those tools with them and repeat them until they memorize these words.

Vocabulary learning is one of the most prominent, vital, hard, and long-term tasks in language learning. Vocabulary teaching should not be a random, cursory action; on the contrary, it should be carried out in line with the determined strategies. By learning vocabulary strategically, the learning process will be more proficient, effective, and even enjoyable (Gu, 2021). Particular methods that are utilized by

language learners for the expansion of their vocabulary knowledge in a second or foreign language are named "vocabulary learning strategies" (Gu & Johnson, 1996). It has also been claimed that utilised vocabulary learning strategies have an excessively positive influence on students' vocabulary development (Nation, 1990; Schmitt, 1997; Oxford, 1990). Therefore, it has been asserted that educators should teach learners the required strategies for expanding their vocabulary knowledge, rather than only teaching individual lexical items (Craven, 2014).

Language learning strategies fall under the heading of general learning strategies, and vocabulary learning strategies are a subset of those strategies (Nation, 2013). Since the term was first used, numerous different language-learning methods have been proposed by various scholars, resulting in confusion and a mess. Following this, O'Malley et al. (1985) categorize language learning techniques into three groups: cognitive, metacognitive, and social. Although this division was acknowledged, it did not mark the end of the development of new language-learning techniques.

a. Gu and Johnson

Studies on vocabulary learning strategies in second language acquisition began in the late 1980s (Gu, 2021). Most of the early vocabulary learning strategies were based on the memorization of words, which is why they were named "memory strategies." Word lists have long been associated with the term "vocabulary," and vocabulary acquisition tactics have been equated to methods for committing these lists to memory (Gu and Johnson, 1996).

Analysing their study with Chinese learners, Gu and Johnson (1996) reported that generally, participants do not believe rote memorization techniques work for vocabulary learning. What these learners did most often was guessing, dictionary work, and note-taking. They claimed that memory strategies are different from vocabulary learning strategies. They make a distinction between vocabulary learning strategies and memory techniques here. The first one alludes to vocabulary learning techniques that focus on the memorization of form-meaning pairs. They claim that this is just one kind of vocabulary learning technique and that memorizing words is not the goal of learning a foreign language. The latter term alludes to a broad range of tactics applied throughout a continuous process of vocabulary development.

Gu and Johnson (1996) propounded seven strategies for vocabulary learning:

metacognitive regulation, guessing, dictionary, note-taking, rehearsal, encoding, and activation.

Table 3 Vocabulary Language Learning Strategies by Gu and Johnson (1996)

Strategies	Techniques
1. Metacognitive Regulation	a. Selective attention b. Self-initiation
2. Guessing Strategies	a. Using background knowledge b. Using context cue/immediate context
3. Dictionary strategies	a. Dictionary strategies for comprehension b. Extended dictionary strategies c. Looking-up strategies
4. Note-taking strategies	a. Meaning-oriented note-taking strategies b. Usage oriented note-taking strategies
5. Rehearsal strategies	a. Using word list b. Oral repetition c. Visual repetition
6. Encoding strategies	a. Association/Elaboration b. Imagery c. Visual encoding d. Auditory encoding e. Using word structure f. Semantic encoding g. Contextual encoding
7. Activation strategies	a. Using of words in various contexts

b. Schmitt (1997)

Schmitt (1997) put forward six types of vocabulary learning strategies under two main classifications. The first type is discovery strategies, which include determination strategies for defining the meaning of new words without support from others and social strategies that comprise asking teachers or peers for the meaning or translation. The other class is consolidation strategies, which contain what is necessary for recalling a word after recognizing it. These second-class strategies are separated into four types: metacognitive, which includes decision-making with the conscious learning process, social strategies, such as training and applying the meaning in a group of learners or communicating it with L1 speakers, cognitive strategies, like the oral and written repetition, and memory strategies, which show connecting the item with prior data using grouping (Al-Faris & Jasim, 2020).

Schmitt's Taxonomy (1997)

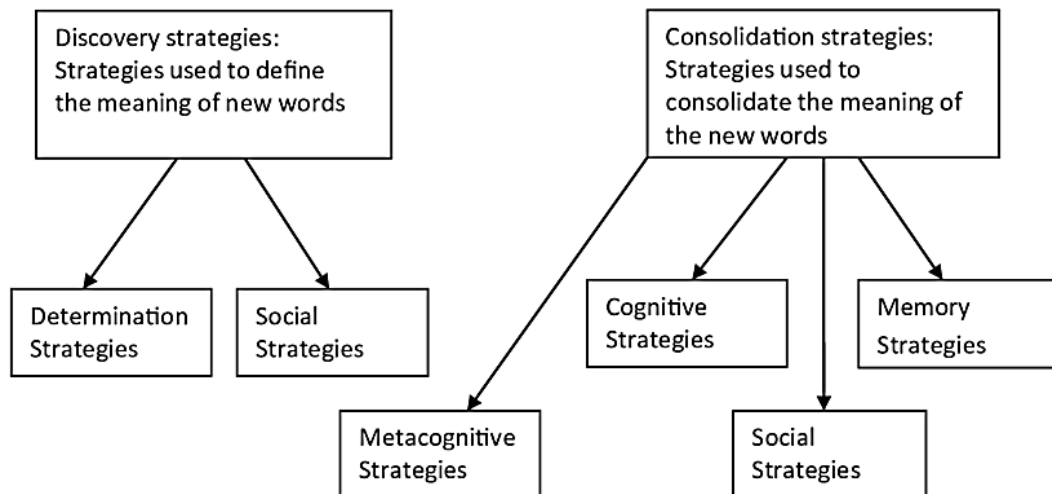


Figure 17 Schmitt's taxonomy of vocabulary strategies

c. Nation (2013)

Nation's (2013) classification includes four categories namely planning, source, processes, and skill in use, all of which have some sub-categories as represented in Table 4.

Table 4 Nation's Vocabulary Teaching Strategies

General class of strategies	Types of strategies
Planning: choosing what to focus on and when to focus on it	Choosing words Choosing the aspects of word knowledge Choosing strategies Planning repetition and spending time
Sources: finding information about words	Analysing words Using context Consulting a reference source in L1 or L2 Using parallels in L1 and L2
Processes: establishing knowledge	Noticing Retrieving Generating (creative use)
Skill in use: enriching knowledge	Gaining in coping with input through listening and speaking Gaining in coping with output through reading and writing Developing fluency across the four skills

d. 5R: Five essential steps in vocabulary learning

Generally, teachers wonder about how students learn vocabulary, and if they know about learners' strategies and what kinds of techniques work for vocabulary learning, they can develop their lesson plans accordingly. Some teachers want students to write any new words ten times, some teachers advise their students to use flashcards, and some others suggest learners use them in a sentence. Which of these strategies is best, or is there an assured strategy for vocabulary learning?

Payne (1988) did a formal study about vocabulary learning strategies, and she asked seventeen ESL students who were in an intensive course, "What strategies do you use?" Payne asked this question to students in their native language in order to be sure they were expressing themselves clearly. After the interview, she produced a questionnaire that included 32 statements, including the strategies she collected from 17 ESL students, and applied it to more than 100 ESL students, asking them to rate each strategy.

In 1994, Brown and Payne conducted an analysis using those data and put forward an effective model in which they collected strategies under five main steps. The first is having sources for encountering new words, and getting a clear image, either auditory or visual or both, of the form of the new words is the second step. Learning the meaning of the words, making a strong connection between the form and meaning of the word, and finally using the words are the other steps (Hatch and Brown, 1995, p. 373). These phases show the steps learners need to take to fully learn a new word. Later, in his article, *Current trends of vocabulary teaching and learning strategies for EFL settings*, Wei Shen (2003) renamed these stages as receiving, recognising, retaining, retrieving, and recycling in four language skills (5r). Unlike, Payne and Brown, he claimed that this model is not a linear method but a dynamic circulatory system. Whereas the first three steps are receptive, the last stage is productive.

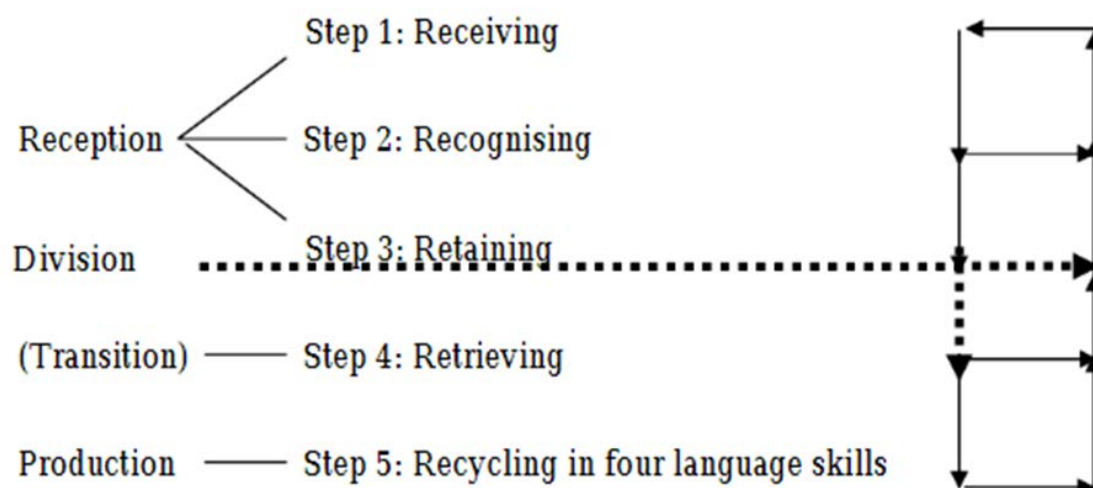


Figure 18 Steps of vocabulary learning (Shen, 2003)

Step 1. Receiving: Encountering new vocabulary can happen intentionally or incidentally via reading, listening, and viewing. While reading a book, magazine, article, or any other text, listening to a song or a podcast, or watching TV or a video, students can be exposed to new words. Since there are many words, intentional learning of vocabulary cannot be sufficient; therefore, students need to take a lot of input to have incidental learning.

Step 2. Recognizing: After students identify new words, they consciously or unconsciously try to learn the meaning and form of the words. Learners may guess or analyse the meaning of the word from the context. By making a reasonable comparison between their native language and target language, they can get the form of the words.

Step 3. Retaining: For this stage, guessing the meaning and form of the words from context may not be enough; therefore, students may need some aids such as using a dictionary or asking their peers or teachers. If students ignore learning new words, the transition to the 4th and 5th steps will not take place. According to Shen (2003), there is no obligation to follow these five steps. Some words may be acquired in the first step and passed directly to the fifth step.

Step 4. Retrieving: After students retain the word, they can make a connection between its form and meaning. The words are already in their minds, so students can retrieve them whenever they need them. They can do activities like grouping vocabulary, placing them in a context, or completing a meaningful sentence. Students can use the words but still cannot produce sentences freely.

Step 5: Recycling: In this stage, students can use words in the four skills and they can especially produce sentences via writing and speaking. In this 5R Model, techniques may change for each step.

5. Technology and Vocabulary Teaching

Technology and language teaching have been intertwined from the very beginning. When the Direct Method was the teaching method, flashcards and realia were used for vocabulary teaching. During the CALL period, images, podcasts, and videos have been utilized for vocabulary development. Many studies have been done to investigate the effects of computer-based vocabulary learning, and most of these studies suggest that learning vocabulary with pictures and video clips increases retention because the learners can have multiple accesses to words (Chun and Plass, 1996). At present, our daily lives are surrounded by digital technology. However, it has not been widely adopted in the classroom for some reason. Vocabulary instruction, in particular, has not included much digital technology. Even though the technology is readily available, this has not yet occurred for in-class education.

There are effective educational methods that apply technological tools to support students expand their vocabulary knowledge. At this point, the internet and multimedia technologies are the most powerful means of vocabulary development. Mobile devices are also quite beneficial in vocabulary learning since there are many vocabulary teaching apps, especially online dictionaries; however, instructors doubt them due to their potentially distracting negative side.

Even though phones and iPads can cause a distraction in or out of the classroom, technology and teaching go hand in hand, and separating the two is impossible and has negative consequences. Indeed, trying to understand how technology works and fitting "one more thing" into the lesson plans can be cumbersome. However, from assessment to engagement, integrating technology into language training has numerous advantages. Teachers can utilize a variety of digital technologies to pique students' enthusiasm for learning new terms. In the previous three decades, digital technology has grown at a breakneck pace. As a result, these advancements must also enhance instructional techniques.

6. The Most Popular Mobile Applications Used in Vocabulary Development

How to teach vocabulary has been a topic of research for a long time, and there is not a certain method that is asserted as the best way to teach it; however, some techniques and ways are more fun and retainable compared to others. Teaching vocabulary with technology, especially with mobile devices, is a recent method of vocabulary teaching. Mobile devices can be used for in-class education in the central education system or as supportive tools utilised outside of the class. Thanks to mobile devices, a language learner can expand his or her vocabulary knowledge because there are thousands of applications for vocabulary teaching in the App Store or Google Play Store. While some of these applications use drills, others are context based.

a. YouTube

Founded in 2005, YouTube is currently one of the most popular websites and apps on the internet, with over 6 billion hours of video watched each month. YouTube is a free video-sharing platform with many types of videos. The large number of videos available on YouTube is just one of the reasons for its popularity. YouTube receives nearly 100 hours of video per minute on average, so there's always something new to watch! YouTube also has a wide variety of videos; anyone with a Google Mail account can create and share videos on YouTube. The fact that it's free, user-friendly, and can be downloaded and used on any mobile device makes YouTube an essential educational platform. YouTube allows anyone to learn anything at any time and from any location, making it a kind of distance learning environment. Students can get input by watching entertaining videos or instructional videos that teach vocabulary in the target language. Using YouTube videos can make the learning process more appealing and interesting, and make it easier for students to remember what they have learned (Almurashi, 2016).

b. Google Classroom

With the development of modern technology, mobile devices have started to be used in all areas and have become a part of our lives. One of the areas where mobile devices are frequently used is education. Firms have created innovative teaching applications that can be used in the classroom or outside the classroom setting. Among the many corporations that produce thousands of apps, Google took the chance to develop Google Classroom, a free learning management system.

A learning management system (LMS) is a web-based system that has become popular recently and connects classroom education and online learning. Many processes, such as file sharing, forums, chat and discussion boards, messaging, sending voice messages, online meetings, and lectures, are available through learning management systems. Teachers can strengthen their lessons by offering supportive online training through the LMS. One of the most widely used LMSs is Google Classroom.

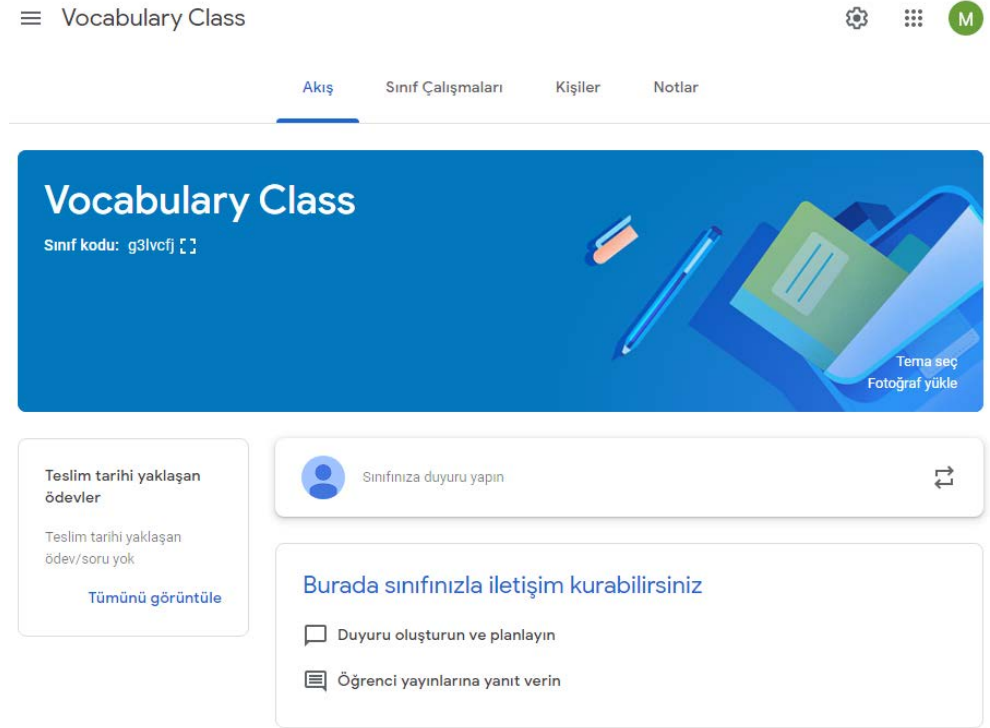


Figure 19 Opening a class in Google Classroom

In 2014, Google created this application as a simulation of a real class. Trainers can open a virtual class and share any kind of material on it so that students can read, discuss, and share their ideas. Integrating face-to-face education with online education, Google Classroom is quite an effective and supportive learning platform. Google Classroom, which has a fairly easy interface, can be downloaded from Google Play and the App Store. Also, it can be used in Windows on any kind of computer. Since there is no limitation on the number of members, teachers can combine all of the students who take the same lesson and reach all of them at the same time. In a blended context, Google Classroom can be one of the most innovative and helpful tools.

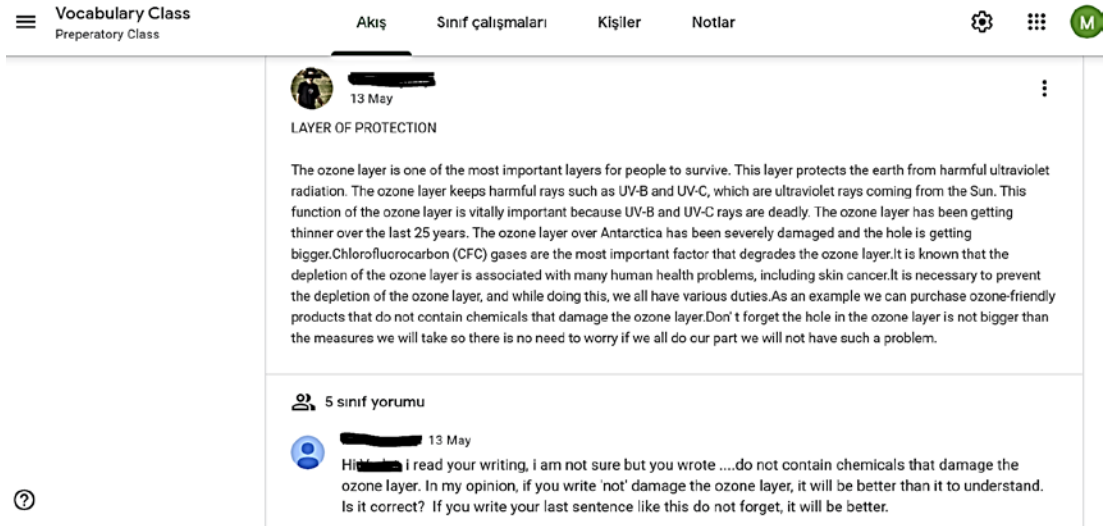


Figure 20 A collaborative study on Google Classroom

Google Classroom can also be a supportive app for students' vocabulary development. Students can write sentences using newly learned word patterns in context. They can correct each other by exchanging ideas about each other's sentences. In addition, worksheets, educational videos, or any other material can be shared by both teachers and students. After a face-to-face course, the instructor can have students get worksheets or take a quiz in Google Classroom at a flexible time. Since its inception, Google Classroom has ranked among the best teaching apps, not just for teaching languages, but for teaching any kind of subject.

c. Kahoot

Kahoot is a game-based learning platform that makes learning fun and easy. On this platform, one can create a learning game with as many questions as one wants, and videos, images, or diagrams can be added to the questions.

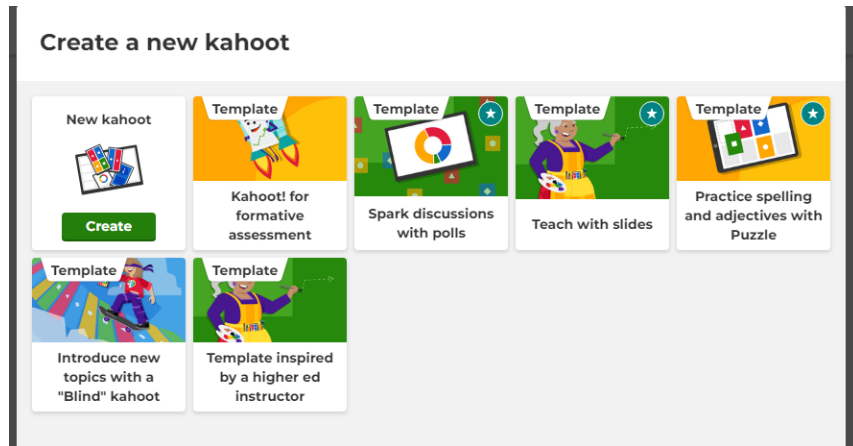


Figure 21 Creating a new Kahoot

One can play a game that helps with any kind of learning. Kahoot includes thousands of language-learning games, most of which are for vocabulary development. The best form of Kahoot is playing in groups. Each of the players has an ID, and generally, the host has a big screen and the other players play on their devices. Besides live games, one can also play Kahoot at his or her own pace. A teacher can share a vocabulary learning game with his classroom, and a group of students can play this game together.



Figure 22 Playing a Kahoot

d. Wordwall

Wordwall is an application that enables you to prepare any kind of vocabulary activity, from a multiple-choice test to a crossword puzzle. Anyone who has an account can use it freely and share any vocabulary activities that she or he prepared previously. Those activities can be saved and used later. With different theme choices and a leader board, the application is quite fun to utilize. With its quite simple usage, Wordwall is a user-friendly application.

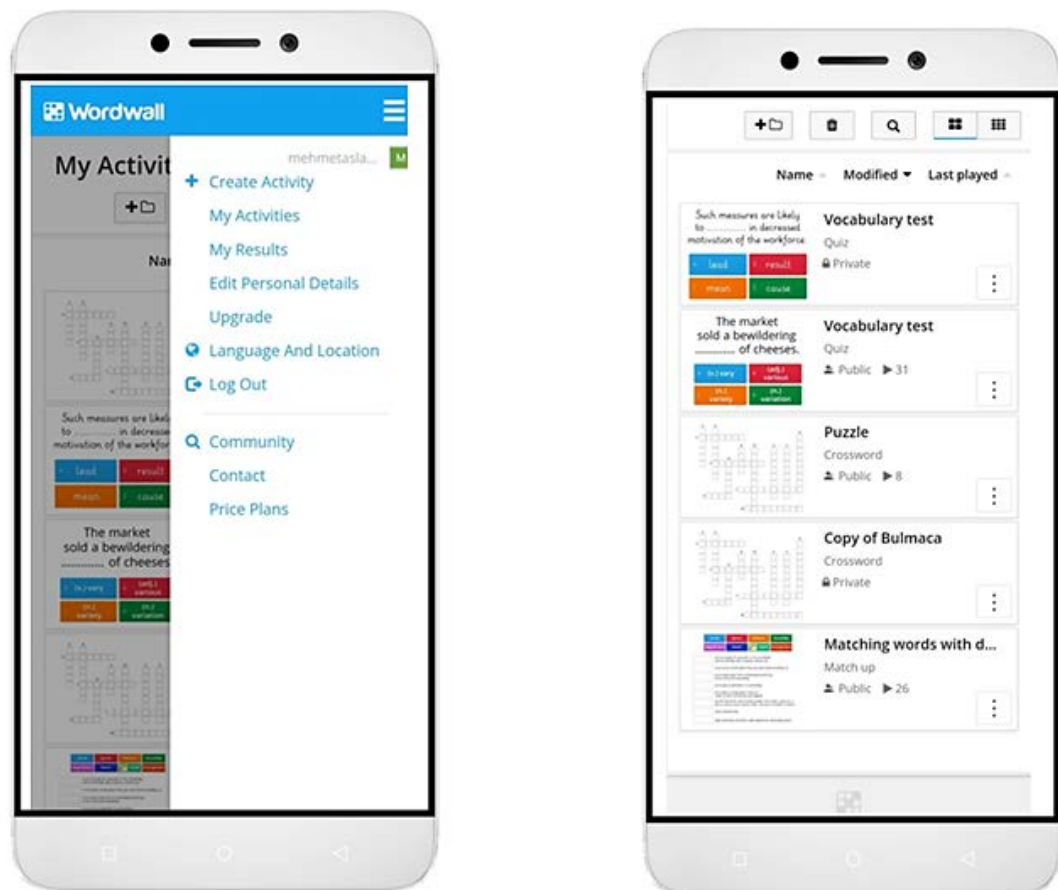


Figure 23 The Wordwall application



III. METHODOLOGY

A. Research Design

According to Dörnyei (2007), adopting quantitative approaches alleviates the stress of unique human variability and personal bias while also bringing impartiality to the investigation. In this study, as a quantitative data collection tool, a pre-test was created and utilized to obtain information about the vocabulary level of the participants. Also, the same test was applied as a quantitative post-test to see the vocabulary development of the participants after the 14 weeks of the experiment period. Dörnyei (2007) also points out quantitative tools are not always sufficient, and they're limited when it comes to measuring the subjective diversity of an individual's perspective, thus there is a requirement for qualitative data. Data that is characterized either verbally or in a narrative format is called qualitative data. Focus groups, interviews, and open-ended questionnaire items are some qualitative data collection tools. A basic method of examining qualitative data is to think of qualitative data in the form of words (Start, 2006).

“Words are the way that most people come to understand their situations. We create our world with words. We explain ourselves with words. We defend and hide ourselves with words. The task of the qualitative researcher is to find patterns within those words (and actions) and to present those patterns for others [...]” (Makyut and Morehouse, 1994, p. 18)

Thus, in this study, an open-ended questionnaire form in the native language of the subjects was delivered to participants so that they could express their ideas clearly about Blended Mobile Learning. Qualitative tools help students to express their views clearly without being restricted. Participants’ opinions are quite significant for reaching a substantial result of the study and the role of the researcher is to correctly and deeply analyse those data to get a comprehensive view of subjects’ opinions.

To better address, various problems and aims, qualitative and quantitative methodologies are frequently used in various ways because they have different strengths. However, there are some times and problems “when it makes sense to

‘have the best of both worlds,’ and to use a combination of some quantitative and some qualitative data in order to credibly address a particular question and make well-informed decisions” (Start, 2006, p. 7). Dörnyei (2007) states the significance of mixed-method research as follows: “The main attraction of mixed methods research has been the fact that by using both quantitative and qualitative approaches, researchers can bring out the best of both paradigms, thereby combining quantitative and qualitative research strengths” (p. 45). As a result, he recommends combining quantitative and qualitative methodologies. The basic notion is that applying both methods together will lead to a better understanding of the research (Creswell, 2012). In this research, a mixed-method research design is used for data collection.

Cresswell (2012) types the mixed method into 6 designs:

The Convergent Parallel Design (parallel or concurrent): The aim of a convergent (or parallel or concurrent) mixed methods design is to simultaneously gather both quantitative and qualitative data, unite the data, and utilize the effects to comprehend a research problem.

Explanatory sequential mixed methods design (two-phase model): This method involves first accumulating quantitative data and then gathering qualitative data to help with the quantitative results.

Exploratory sequential mixed methods design: The goal of this method involves the procedure of first collecting qualitative data to discover a phenomenon, and then gathering quantitative data to clarify relationships found in the qualitative data.

Embedded design: The embedded design aims to gather quantitative and qualitative data concurrently or successively, and having one form of data plays a supportive role to the other form of data.

Transformative mixed methods design: This design intends to practice one of the four designs (convergent, explanatory, exploratory, or embedded), but to cover the design within a transformative framework or lens.

Multiphase design: Similar to the transformative design, the multiphase design is a complex design that builds on the basic convergent, explanatory, exploratory, and embedded designs. The purpose of the design is to address a set of incremental research questions that all advance one programmatic research objective.

Among those designs, in this study, the *explanatory sequential mixed methods design (two-phase model)* was utilised. Firstly, we applied and analyzed quantitative data to measure the effect of Blended Mobile Learning on students' vocabulary development, and later qualitative data were collected to evaluate students' attitudes towards Blended Mobile Learning. For the quantitative data collection, a pre-test and post-test were applied to both groups to evaluate students' vocabulary development. As a qualitative data collection technique, a structured interview was implemented with the experimental group participants to learn students' thoughts about the applied lesson with mobile devices. Also, since the instructor was also a contributor to the study, a *participant observation* process was followed. The instructor had the opportunity to observe participants and evaluate their vocabulary development during in-class activities and also learn about the experimental group students' ideas about Blended Mobile Learning.

B. The Setting of the Study

The reason preparatory class students at Van Yüzüncü Yıl University were chosen for this study is that since it is a long-term study, the instructor and subjects should be on the same campus. Additionally, in preparatory classes, students intensely focus on learning English, studying 24 hours a week, and are aware of the significance of vocabulary in language learning. The writer of this thesis is teaching reading and writing by using the third edition of the Q-skills Reading and Writing 3 book, published by Oxford University. The book is composed of 8 chapters, each of which includes two reading passages that start with teaching unknown vocabulary. The substantial association (0.6 to 0.8) between vocabulary knowledge and reading comprehension has been confirmed by research (Pearson et al., 2007). As a result, the vocabulary levels of both the experimental group and the control group improved during the 14-week study period.

The free wireless connection that is needed for downloading and running applications has been provided by Van Yüzüncü Yıl University.

C. The Subjects of the Study

40 students who were previously and randomly classified into two different classes by the School of Foreign Languages during the 2021–2022 educational

period were studied in this research. Those students whose levels were quite close to each other come to the department after passing the Foreign Language Test (YDS), which is facilitated by ÖSYM, the official exam centre of the Turkish government. They are going to study English language and literature and English language teaching after one year once they finish and succeed in preparatory classes. B2 level students, aged between 17 and 22, are preparatory class students at Van Yüzüncü Yıl University. At the beginning of the term, a proficiency exam was applied, and those who succeeded passed to the first class, while failed students were randomly classified into two classes by the director of the school. At the end of the term, students who can pass a proficiency exam at the B2 level are accepted as successful students.

In this study, among 60 students who were classified into three classes, all students from the two classes, each of which comprised 20 learners, participated in the study. Randomly, one of these classes was selected as the control group, whereas the other was randomly selected as the experimental group. All classes were taking a four-hour-per-week reading and writing course in which the instructor focused on lexical items before analyzing each reading passage. The experimental group participants took the equivalent of 14 weeks of extra study, including different kinds of vocabulary-developing activities, via a virtual vocabulary classroom on the Google Classroom application.

D. Instructional Design and Procedure

In this study, Blended Mobile Learning was applied by combining Google applications, mainly Google Classroom, which can be easily used and freely downloaded on any platform, with face-to-face education. With this method, learning is more student-centred and personalized. Even if the term "Blended Learning" is used differently depending on the context, in this study it means the interaction of face-to-face education with online mobile learning.

To see the impact of Blended Mobile Learning on the vocabulary development of B2 level EFL students and the attitudes of the learners towards mobile learning, a quasi-experimental study was conducted for 14 weeks with preparatory students of the School of Foreign Languages at Van Yüzüncü Yıl University. Those students were already randomly classified into two classes by the school administration. One

of these classes was randomly chosen as the control group, whereas the other group was designated as experimental by the writer of this thesis. The writer of this thesis was also the instructor of both groups, and he was using the *Q-Skills Reading and Writing* book published by Oxford University Press as a course book. The book includes eight units, each of which has two reading passages. At the beginning of each reading activity, vocabulary related to passages was taught first. In this case, the vocabulary levels of both groups would be improved over the duration of this course. However, the course teacher aimed to share different vocabulary development activities with the experimental group on the Google Classroom applications, on which students could work outside of the classroom, and then examine the difference between both groups and the progress in the experimental group.

During face-to-face learning, both groups learned the meaning of words in the reading passages. Also, the grammatical form and pronunciation of the words were highlighted on the board. After the face-to-face lesson, the instructor shared different types of activities, like reading completion or word games, which focus on various forms of words and the meaning of lexical items at the B2 level.

This study has two stages. The first stage consists of learning and recognizing words, and the second stage consists of producing sentences and paragraphs with the correctly learned words. Many intertwined methods were used in this study. For the instructional design of the research, different methods were used at different stages of the study. In the early stages of the study, the students worked on the given activities on their own and they can interact with each other without any time or place restrictions, a method named ubiquitous learning (Hwang et al. 2008; Ogata et al. 2009). Thanks to mobile devices, students can be in contact with each other at any time and expand their knowledge without restrictions.

When they wrote sentences and paragraphs and shared them in Google Classroom, and then made comments and corrections to each other's writing, they collaborated (Collaborative Learning/Cooperative Learning). In Cooperative Learning, learners work in small heterogeneous groups organized to augment the learning of all group members (Slavin, 2014; Gillies, 2016).

Finally, they prepared a slide show by adding pictures to their paragraphs and students recorded those slides in mp4 format and then shared them on their YouTube channel which is an example of Project-based Learning. Three constructivist

principles—learning is context-specific, learners participate actively in the learning process, and learners accomplish their objectives through social interactions and the sharing of knowledge and understanding—are the foundation of project-based learning (PBL), a student-centred approach to instruction (Cocco, 2006).

The 5R method, by Brown and Payne (1995), was used as a vocabulary learning method. This method focuses on five stages of vocabulary learning: receiving, recognizing, retaining, retrieving, and recycling. According to the 5R vocabulary teaching method, learners must first learn lexical items and later produce them. After students are exposed to a certain number of B2-level words for eight weeks, they can use these lexical items in sentences and paragraphs.

The SAMR model was used as a method of integrating technology into education. In this model, the substitution is to show the replacement of a material used in the traditional method with a technological application. In this study, instead of paper-based worksheets of reading passages, the pdf forms of these worksheets were shared with students. Augmentation, on the other hand, is adding some additional features to this technological application. Learners used online dictionaries to understand reading passages. While modification symbolizes the gradual change of method, redefinition shows a completely different work that can only be achieved with technology. Students shared their sentences and paragraphs via Google Classroom which is an example of modification and prepared a video with these writings and shared them on their YouTube channel which is an example of redefinition. All these applications and methods are explained in detail in the literature review section. Their relations with each other are shown in Table 5 and Table 6.

Table 5 First Phase of the Study

FIRST PHASE OF THE STUDY (Appendix 3)				
Instructional Design	Vocabulary Teaching Method (5R)		Schedule of The Study	Technology Integration Method (SAMR)
Ubiquitous Learning Students could study and answer the questions anywhere and anytime, that is without time and place restrictions.	Receiving	Reception	First Four Weeks During the first four weeks, a reading passage for each week was shared with students. Those reading passages were including different activities like comprehension or fill-in-the-blank questions. Also, for each week, an activity prepared via wordwall.net was shared with students via Google Classroom. Students' answers were discussed in class. A reading passage which included some vocabulary multiple-choice and filling-the-blanks activities was shared on Google Classroom, and students were asked to choose the correct options. Later, answers were discussed in class.	SUBSTITUTION Technology acts as a substitute, with no functional change. Instead of the worksheets that can be given in the lesson, the students worked on the reading texts shared in pdf format over Google Classroom and aimed to recognize the underlined words.
	Recognizing			
	Retaining		Second Four Weeks For each week, a reading passage with blanks was shared with the students via Google Classroom. The students were asked to find different forms of the words given in the blanks from the dictionary and write them down. The answers of the students about the different forms of words (parts of speech) were discussed in class.	AUGMENTATION Technology acts as a substitute, with small functional improvement Students used an online dictionary to check the appropriate meaning of the word according to context. They checked and learned the type of words.
	Retrieving		For 9th week The students read the passage shared on Google Classroom in detail because there were questions about the passage. They also found the meanings of the highlighted words from the Oxford Learners dictionary and shared them on Google Classroom. (According to the list determined by the instructor, one student for each word, but shared with the students after reading)	

Table 6 Second Phase of the Study

SECOND PHASE OF THE STUDY (Appendix 3)				
Instructional Design	Vocabulary Teaching Method (5R)		Schedule of The Study	Technology Integration Method (SAMR)
Cooperative Learning Students made comments and corrections to sentences and paragraphs written by other students.	Recycling	Production	For 10th Week Students used the determined words in the passage in an example sentence and shared their sentences on Google Classroom. Their classmates discussed these sentences by correcting or commenting.	MODIFICATION Technology allows a significant task design. Using the Google Classroom application provides students with an environment for discussion and collaboration. With the help of their classmates, they realized their mistakes and corrected them.
Project-based Learning Students discovered social or environmental problems and wrote a paragraph with solutions to these problems. Then they decorated this paragraph with pictures, made a slideshow, and saved this slide in mp4 format. They shared this video with the world and official authorities on their own YouTube channels. Google provides a YouTube channel to anyone who has a Gmail account.			For 11th and 12th weeks Students wrote a paragraph about an environmental or social problem and shared it with their friends on Google Classroom. The students evaluated the written paragraphs and made comments.	REDEFINITION Technology allows an inconceivable task design that cannot be done with traditional learning. Sharing the videos in which they find solutions to social problems on YouTube channels and ensuring that they reach the necessary authorities and the world is an impossible situation to do with traditional methods.
			For 13th week By decorating these paragraphs with pictures. Students turned them into slideshows with the Google Slide application.	
			For the last week Students recorded the slide they prepared as mp4, that is, as a video. Some students also added background music. Students posted it on their YouTube channels.	

E. Data Collection Tools

Pre-test: To measure students' vocabulary knowledge, before the application of the study, a pre-test was prepared with questions taken from the "Use of English" parts of the sample papers of the B2 First Exam applied in 2015 by Cambridge Assessment. Since the B2 First Tests of Cambridge Assessments were carefully prepared and the reliability and validity of tests were controlled, this pre-test and post-test are reliable and valid. The test includes two parts, each of which consists of two cloze test-type readings. Whereas the first part of the test, which consists of two reading passages with 16 blanks for lexical items, measures vocabulary knowledge, the second part of the test, which contains two reading passages with 18 blanks that need to be filled with the correct form of the word, assesses participants' knowledge of the form of lexical items (Appendix 1).

At the onset of the study, the test was applied to both the experimental and control groups.

Post-test: The same pre-test was applied to the experimental and control groups after 14 weeks of study.

Open-Ended Questionnaire: A Google Form was designed, including five questions that were regulated after the corrections and interpretations of three experts that displayed the validity of the content of the questionnaire form (Appendix 2). The form includes five open-ended questions that are in the native language of the students to prevent any kind of misunderstanding. Students can express their views comprehensively in their native language. The writer of the dissertation translated the students' answers to questions into English. It was applied to all subjects in the experimental groups.

F. Data Analysis

To answer the first research question, the results of the pre-test and post-test were compared using an independent t-test (SPSS 26), and because the author of the thesis is also the study's instructor, he observed the progress of the students in the control and experimental groups throughout the study period. By reviewing the responses to the open-ended questions provided by the students in the experimental group using the Google Form application, the second and third research questions

were analyzed. These two questions were analyzed using the renowned qualitative data analysis program MAXQDA 2020 because they were looking for qualitative information. From this analysis, common themes emerged.

Table 7 Summary of Research Questions, Data Collection Tools and Data Analysis

Research questions	Data collection tools	Data analysis
1. What is the effect of Blended Mobile Learning on the vocabulary development of B2-level EFL students?	Pre and Post tests	SPSS (Independent T-test)
2. What are B2-level EFL students' views about the advantages of mobile devices in vocabulary development?	An Open-Ended Questionnaire	MAXQDA Thematic Coding
3. What are EFL students' views towards Blended Mobile Learning in general?	An Open-Ended Questionnaire	MAXQDA Thematic Coding

Normality of the pre-test

To see if there is a difference between the control and experimental groups' pre-test mean scores, a t-test was performed. To apply the t-test, first of all, the normality test of the dependent variable and the homogeneity analyses of the groups should be performed. Normality tests are performed in three ways: skewness value, histogram and normality test. While one of these may be sufficient, all of them are reported in some studies. In this study, the skewness value, the test of normality and the histogram graphic are supplied. It is understood from Table 8, Table 9 and Figure 24 that the pre-test results are normally distributed.

Skewness Value

As displayed in Table 8, the skewness value of the pre-test dependent variable is -0.194. Since this value is between -1 and +1, the distribution of the dependent variable is normal.

Table 8 Skewness Value of Pre-test

	Statistic	Std. Error
Skewness	-0.194	0.374
Kurtosis	0.260	0.733

Test of Normality

In cases where the number of participants is <50, evaluation is made according to the Shapiro-Wilk test. According to this test, the significance value is 0.710, that is, greater than 0.05. It indicates that the distribution of the pre-test is normal.

Table 9 Normality of the Pretest Results According to Test of Normality

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	df	Sig.
Pre-test	0.138	40	0.053	0.981	40	0.710

Histogram Chart

A Histogram chart is another method used to understand whether the distribution of pre-test scores is normal or not. If the shape of the graph is in the form of a symmetrical bell curve, it indicates that the distribution is normal. The histogram graph in Figure 24 clearly shows that the pre-test distribution in this study is normal.

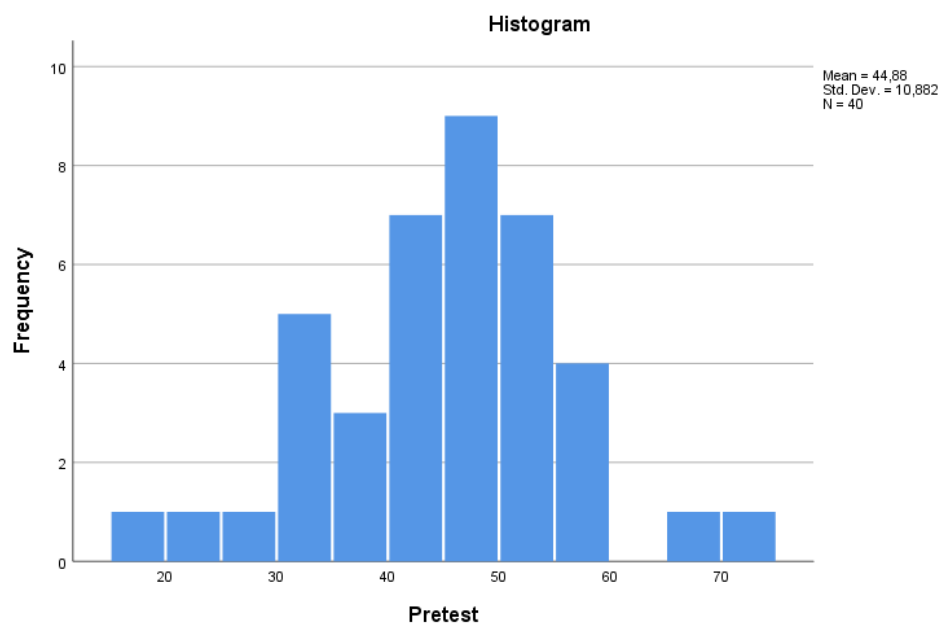


Figure 24 Histogram for the pre-test

To analyse the normality of the post-test results a histogram graph is utilised. The histogram graph in Figure 25 clearly shows that the post-test distribution in this study is normal, too.

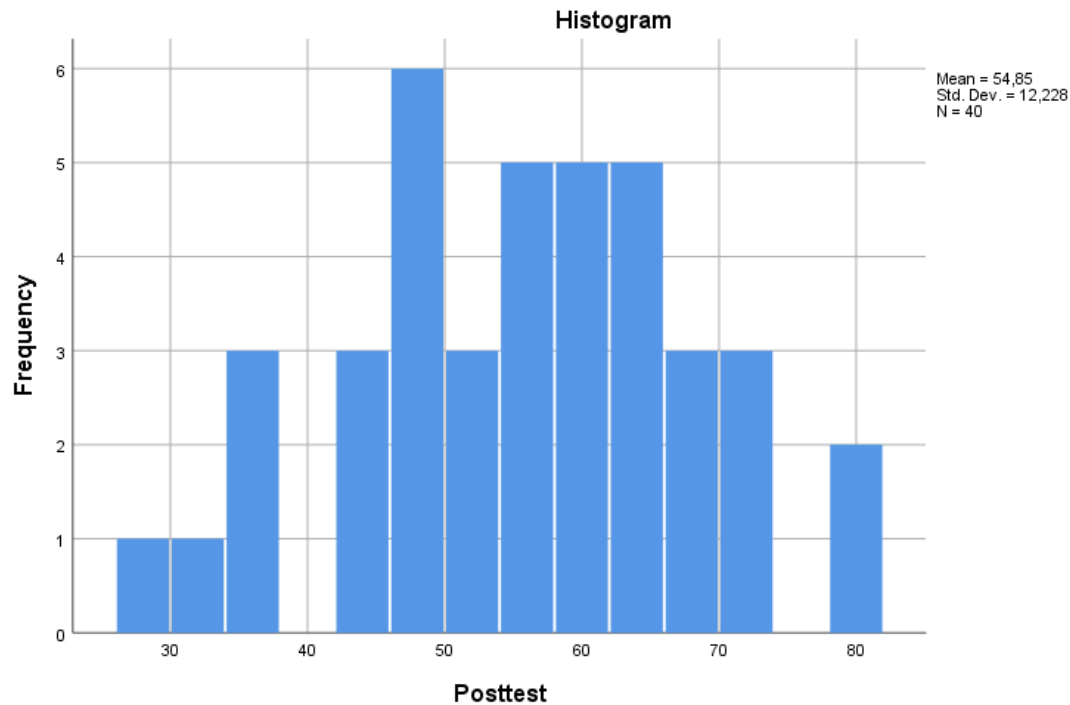


Figure 25 Histogram for the post-test

Considering all the analyses made, we conclude that an independent t-test, which is a parametric test, can be applied to analyse and compare pre and post-test results.

IV. RESULTS AND DISCUSSION

In this section, the answers to the research questions that form the basis of the study will be given one by one and the findings of the study will be discussed.

A. Findings of the First Research Question

RQ.1: What is the effect of Blended Mobile Learning on the vocabulary development of B2-level EFL students?

The pre-test and post-test score distributions of the students in the control and experimental groups must be examined and compared before moving on to the t-test results. The frequencies of the pre-test and post-test results are displayed in Table 10. Homogeneous distribution and a discernible improvement in the experimental group's scores can be seen after the study when the frequency distributions between the groups' pre- and post-tests are compared. In contrast to this, it is clear that the control group's distribution of results differed noticeably, and the post-test grades did not significantly improve.

Table 10 Frequencies of the Pre-test and Post-test Results of the Groups

Pre-test				Post-test			
Experimental Group		Control Group		Experimental Group		Control Group	
Results	Frequency	Results	Frequency	Results	Frequency	Results	Frequency
19	1	22	1	44	2	28	1
28	1	34	1	46	1	32	1
32	3	36	2	48	1	34	1
34	1	40	1	50	1	36	2
38	1	42	2	54	1	44	1
40	1	44	1	56	1	46	1
42	1	46	1	60	3	48	3
44	1	48	5	62	1	52	2
48	3	50	1	64	2	54	1
50	2	54	1	66	1	56	2
52	1	56	2	68	2	58	1
54	2	58	1	70	2	60	1
58	1	66	1	78	2	62	1
70	1					64	1
						70	1
Total	20	Total	20	Total	20	Total	20

As displayed in Table 11, while the minimum score in the experimental group was 19 before the study, it was 44 after the study, and while the lowest score in the control group was 22 in the pre-test, it was 28 in the post-test, which is a very small increase. This situation is in favour of the study.

Table 11 Minimum and Maximum Results of the Groups

Groups		Pre-test	Post-test
Experimental Group	Minimum	19	44
	Maximum	70	78
Control Group	Minimum	22	28
	Maximum	66	70

T-test

Table 12 T-test According to The Results of Pre-test and Post-test

	Group	N	Mean	Std. Deviation	t	p
Pre-test	Experimental Group	20	43.65	11.970	-0.707	0.484
	Control Group	20	46.10	9.830		
Post-test	Experimental Group	20	60.50	10.380	3.264	0.002
	Control Group	20	49.20	11.487		

According to Table 12, the pre-test mean scores of the control and experimental groups were 46.10 and 43.65, respectively. No significant difference was found between the two groups in the independent sample t-test, $t=-0.707$, $p>0.05$. Although this situation was slightly in favour of the control group before starting the study, it supports that the pre-test mean scores of the experimental and control groups are not statistically different from each other. The post-test mean scores of the control and experimental groups were 49.20 and 60.55, respectively. There is an important difference between the two groups according to post-test results, $t=3.264$, $p<0.05$.

Standard deviation, which is a measure of variability, refers to the extent to which our data changes around the arithmetic mean. The standard deviation is extremely useful as it shows the homogeneity of the data on their centre axis. According to the results of the pre-test, the standard deviation of the experimental group (11.970) is higher than the standard deviation of the control group (9.830). A high standard deviation indicates that the data are generally far from the mean which

means students' levels are not close to each other and there is no homogeneity among the member of the group. However, when we look at the post-test results, the standard deviation of the control group increased (11.487) and the standard deviation of the experimental group decreased (10.380). Because they might lack a focal point outside of class, the control group's homogeneity can be seen to deteriorate. Even if a decrease was observed in the standard deviation of the experimental group, 10.380 is not a small amount. I can say that individual differences are significant in this situation as someone who participated in the study and observed the growth of students. Some students experience unique difficulties during the term and may avoid school, which lowers their achievement levels; however, the outcome of this study shows that in the Blended Mobile Learning educational model, students' disengagement from the course and the differentiation of their success levels are less common.

Table 13 T-test According to Difference between Pre-test and Post-test

	Group	N	Mean	Std. Deviation	t	p
Difference	Experimental Group	20	16.85	-1.590	3.749	0.001
	Control Group	20	3.10	+1.657		

Analysing the difference between the two groups, the average of the experimental group increased by 16.86 points, while the control group showed an increase of only 3.10 points. According to the independent T-test result, $t=-3.264$, $p<0.05$, there is a significant difference between the two groups. This indicates that the study was successful in favour of the experimental group.

Whereas an increase of +1.657 happens in the standard deviation of the control group, a decrease of -1.590 occurs in the experimental group. This situation can be explained as follows; Blended Mobile Learning has caused students to increase their level and get closer to each other at the point of success. In comparison, there were level differences between the control group members whose levels were closer to each other at the beginning. Based on the author's observations, whereas some members of the control group broke off from the lessons, all the students in the experimental group actively participated in the lesson until the end of the term.

In addition to independent test results, according to the notes taken by the teacher during 14 weeks, it is understood that although the control group started the

term well, their focus on the lesson gradually weakened and as a result, this situation reflected negatively on their vocabulary development. The experimental group members, on the other hand, actively participated in the lessons until the end of the semester, and their general success in the lesson and their success in vocabulary development were quite good as inferred from writing and speaking activities done in the classroom lessons. As a result, we can say that students' doing homework or activities related to the course outside of the classroom or being assigned to these activities encourages them to participate in classroom activities. Additionally, since those activities are technology-oriented, they feel quite motivated to do them.

B. Findings of the Second Research Question

An open-ended questionnaire was administered to the students in the experimental group to obtain responses to the second and third research questions. A questionnaire form with five open-ended questions was created using Google Forms and distributed to students via Google Classroom.

Table 14 Open–Ended Questions That are Asked in the Questionnaire

Questions in students' native language	English translation of the questions
1. Aldığınız harmanlanmış eğitimin yabancı dil kelime öğrenimine ne tür katkıları oldu?	1. What kind of contributions did the Blended Mobile Learning you received make to foreign language vocabulary learning?
2. Mobil cihaz ve uygulamaların yabancı dil kelime öğrenimindeki kullanışlılığı konusundaki görüşünüz nasıldır?	2. What is your opinion on the usefulness of mobile devices and applications in foreign language vocabulary learning?
3. Geleneksel yöntemle kıyasladığınızda aldığınız harmanlanmış eğitimin olumlu yönleri ve avantajları sizce nelerdir? Gerekçeleriyle açıklayınız.	3. What do you think are the positive aspects and advantages of Blended Mobile Learning compared to the traditional method? Explain with reasons.
4. Harmanlanmış eğitimin (teknolojik cihaz kullanımı bakımından) uygulanabilirliği konusundaki görüşünüz nedir?	4. What is your opinion on the feasibility of Blended Mobile Learning (in terms of usage of technological devices)?
5. Geleneksel yöntem ile bu ders kapsamında kullanılan harmanlanmış ortamda ders uygulamasını karşılaştırdığınızda hangi yöntemi tercih edersiniz? Bunun gerekçeleri nelerdir?	5. When you compare the traditional method and the Blended Mobile Learning used in this course, which method would you prefer? What are the reasons for this?

The questions were answered by 16 students in the experimental group, and the students' answers were examined using MAXQDA 2020. To analyze the responses, it is first necessary to provide some demographic data regarding the 16 students who responded to the survey.

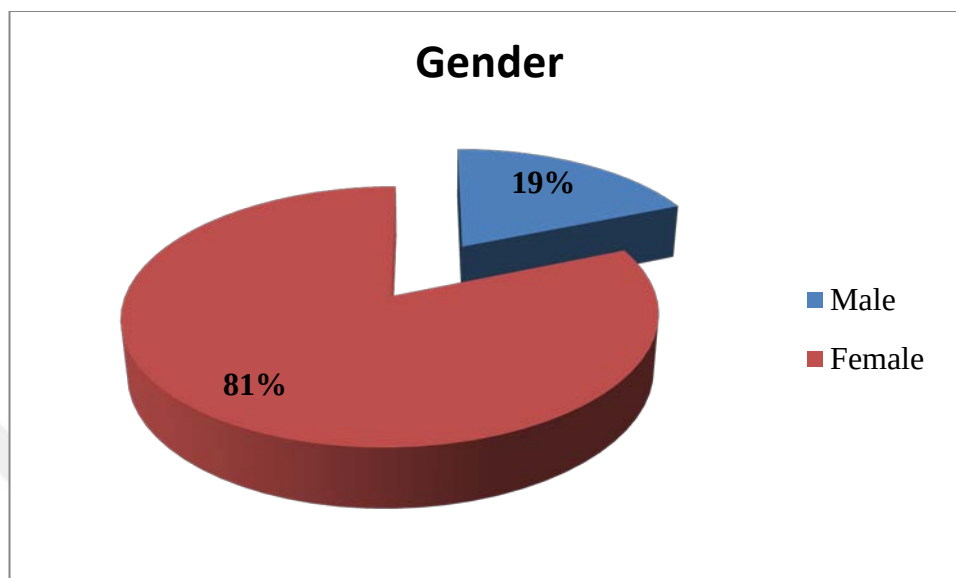


Figure 26 Gender distribution of the respondents to the questionnaire

Knowing the gender and age information of the students contributes to the study for correct analysis. As displayed in Figure 26, whereas 81 per cent of the subjects were female, 19 per cent of them were male.

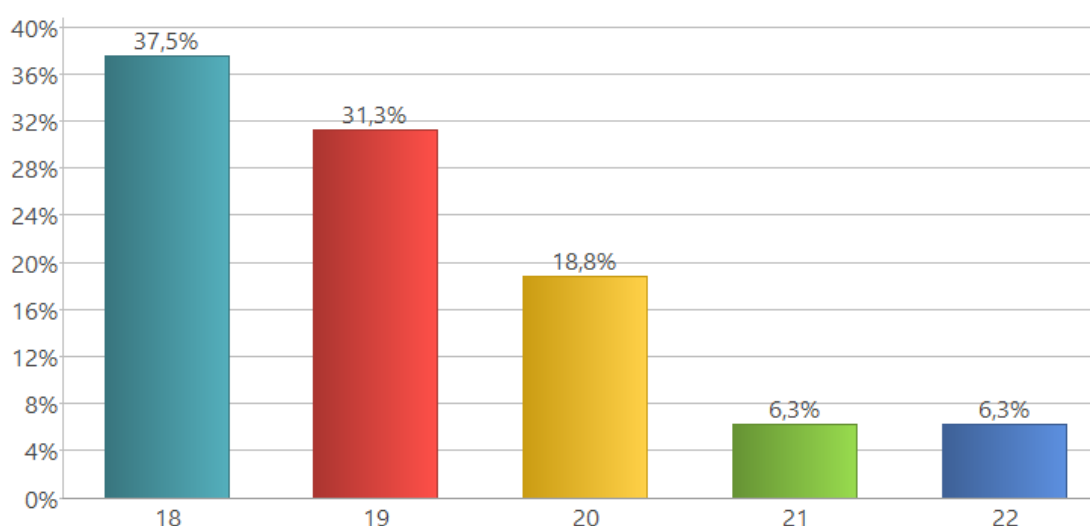


Figure 27 Age distribution of the respondents to the questionnaire

The age distribution of the interviewed students was between 18 and 22, but most of the subjects were 18 years old. The age and gender characteristics of the

students who responded to the questionnaire are individually shown in Table 15.

Table 15 Demographic features of the subjects who answered the questions

Subjects	Gender		Age				
	Male	Female	21	22	19	20	18
S1	0	1	0	0	0	0	1
S2	0	1	0	0	0	0	1
S3	1	0	0	0	0	1	0
S4	0	1	0	0	0	1	0
S5	1	0	0	0	0	0	1
S6	0	1	0	0	0	1	0
S7	0	1	0	0	1	0	0
S8	0	1	0	0	0	0	1
S9	0	1	0	0	1	0	0
S10	0	1	0	0	1	0	0
S11	0	1	0	0	1	0	0
S12	1	0	0	1	0	0	0
S13	0	1	0	0	1	0	0
S14	0	1	0	0	0	0	1
S15	0	1	0	0	0	0	1
S16	0	1	1	0	0	0	0

RQ.2. What are B2-level EFL students' views regarding the advantages of mobile devices in vocabulary development?

To get an overall answer to this question, two open-ended questions are asked to the students in the experimental group; one of the questions is about measuring the advantages of BML in the vocabulary development of EFL students, and the other is about the benefits of mobile devices in vocabulary learning. Despite the fact that the questions appear to be similar, they are distinct because one of them concerns the contribution of mobile tools while the other concerns BML, a system of education that combines face-to-face and mobile learning. The answers to each question were categorized distinctly and clarified under two separate headings.

1. Advantages of BML in Vocabulary Development

It is found that mobile learning has five key benefits for vocabulary development based on the answers provided by the experimental group to the open-ended questions. To put them in order, students say that learning vocabulary with

Blended Mobile Learning is more memorable, faster, more fun, easier, and cheaper. Along with the responses that the students have written, each of these advantages of BML will be listed and explained.

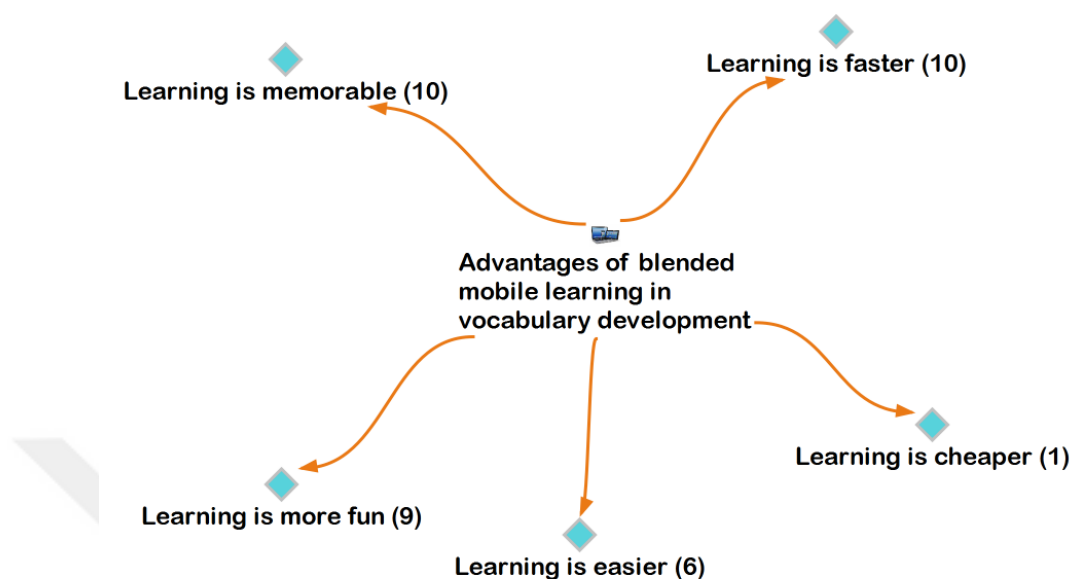


Figure 28 Advantages of BML in vocabulary development

Learning is memorable

The rapid advance of science and technology, particularly in information and communication technology in the twenty-first century, has a significant impact on changes in the way that people live and learn. Learning from books and lecturing turned into learning via mobile devices. In the past, even on short-distance trips, people used to have books with them to fill their time. The new generation, on the other hand, does not let go of their phones for a moment because these phones have so many functions. These mobile devices can be used for many purposes, one of which is education. Students can learn many topics they need to study through these mobile devices.

There are different types of learners. According to Howard Gardner, there are eight types of intelligence, namely mathematic-rhythmic, visual- spatial, verbal-linguistic, logical- mathematical, bodily-kinesthetic, interpersonal, intrapersonal, and naturalistic (Qizi, 2022). Some institutions prepare their educational curriculum based on this model, and generally, psychologists divide learners' styles into three kinds: visual, auditory, and kinesthetic (Siregar and Haswani, 2020). Images, charts, and graphs can be used to teach those who learn visually. Then, auditory learners like

reading and listening to lectures as receptive skills. Kinesthetic learners require activity to learn. In terms of vocabulary building, Mayer (2002) asserts that people learn better from words and pictures than from words alone. Also, in his theory of *Multimedia Learning*, Mayer claims that active learning can happen with the coordination of visual and auditory channels.

A cognitive theory of multimedia learning assumes that the human information processing system includes dual channels for visual/pictorial and auditory/verbal processing, each channel has a limited capacity for processing, and active learning entails carrying out a coordinated set of cognitive processes during learning. (2002, p. 27)

As inferred from the answers of the experimental group students, learning with mobile devices is more memorable since mobile applications mostly contain visual or auditory objects for vocabulary development.

Görsel hafızamın güçlü olması sebebiyle dijital sayfada görmüş olduğum kelime ve anlamının hafızamda kalıcı yer edinmesini sağladı (S8).

Thanks to my strong visual memory, it allowed the word and its meaning I saw on the digital page to take a permanent place in my memory (S8).

Harmanlanmış eğitim yabancı dil kelime öğreniminde kolay ezberleme açısından oldukça katkı sağlıyor çünkü görsel efektler daha akılda kalıcı oluyor böylelikle daha kolay öğrenebiliyoruz (S14).

Blended Mobile Learning contributes a lot in terms of easy memorization of foreign language vocabulary because the visual effects are catchier, so we can learn more easily (S14).

Another factor that makes BML more memorable is the fact that the applications are very entertaining because they are game or puzzle-based, and they attract the attention of the students more compared to lecturing by the instructor. S9 states “BML contributes a lot to language education, and because it is more fun, the words are more memorable.”

Her gün elime alıp ezberlemeye çalışıp da ezberleyemediğim kelimeleri, özellikle puzzle şeklinde olunca daha çok öğrenmeme ve aklımda kalmasına yardımcı oldu (S16).

It helped me learn and remember the words that I could not memorize, especially when they were in the form of a puzzle (S16).

Learning is faster

The second advantage of BML is that vocabulary learning is faster than with the traditional method because mobile devices come into play. Almost every person has at least one mobile device, and thanks to the internet, accessing information

quickly, regardless of location and time, is another important advantage of technology as stated by S11: “thanks to the Blended Mobile Learning, we learn more words in less time.” BML enables time-saving since students swiftly pick up any lexical items whose meaning or pronunciation they are unsure of from online dictionaries.

Bilmediğin bir kelimeye hemen erişebilmek ve o kelimenin cümle içinde nasıl kullandığıyla ilgili örneklerle bakıp çözmek, o kelimeyi çok hızlı kavramamıza yardımcı olur (S12).

Immediately accessing a word you do not know and looking at and solving examples of how that word is used in a sentence helps us to grasp that word very quickly (S12).

Mobil araçlar aradığımız kelimeleri zaman kaybetmeden bulabilmemizi sağlıyor. Kelime öğrenme sürecini hızlandırmada etkilidir (S7).

Mobile tools enable us to find the words we are looking up without wasting time. It is effective in accelerating the vocabulary learning process (S7).

Learning is more fun

Students point out that learning vocabulary by the traditional method via memorization and synonyms is relatively boring compared to mobile learning. They emphasize that learning vocabulary with games and visual images on mobile devices is quite fun thanks to BML. Learners can spend most of their time on their mobile devices listening to songs, watching videos, or reading magazines and newspapers which is a more fun way of learning compared to lectures or rote memorization. In this way, they can be exposed to a great number of vocabulary items many times which helps them to acquire lexical items.

Yabancı dilde kelime öğrenimi geleneksel yöntemlerle her zaman öğrencilerin çok sıkıldıkları bu yüzden yapmak istemedikleri bir mevzu olmuştur. Yoğun bir temponun ardından yatakta uzanıp mobil cihazlarımızda, oyunlaştırılmış ve kelime öğrenimine katkı sağlayacak alıştırmaları yapmak daha basit ve eğlenceli (S5).

Learning vocabulary in a foreign language with traditional methods has always been a subject that students get bored with, so they do not want to do it. It is simpler and more fun to lie in bed after an intense pace and do gamified exercises on our mobile devices that will contribute to vocabulary learning (S5).

S15 highlights the development of technology and its usage in education, emphasizing the importance of BML that is, supporting face-to-face education with mobile tools.

Teknolojiyle iç içe bir nesil olduğumuz için çevrimiçi bir şekilde kelime öğrenmek çok daha eğlenceli. Bir de normal eğitimle pekiştirdiğimizde daha kalıcı oluyor (S15).

Since we are a generation intertwined with technology, learning vocabulary online is much more fun. And when we reinforce it with face-to-face education, it becomes more permanent (S15).

Learning is easier

As understood from students' responses, it is rather easy to access information whenever and wherever you want, thanks to mobile devices and especially smartphones that people do not let go of for a moment. Learning without place and time restrictions is quite easy in this age thanks to mobile devices. Students do not have to come a long way to improve their language skills or acquire a new language. They can download some effective language teaching applications on their mobile devices and start to learn a new language. Having the internet is sufficient for developing vocabulary or learning a new language.

İstediğim zaman cep telefonumdan girip kelime ezberleyebiliyorum ve çok büyük rahatlık sağlıyor bu yüzden mobil cihazların eğitimde büyük katkısı olduğunu düşünüyorum (S10).

I can open my mobile phone whenever I want and memorize words from there, and it provides great comfort, so I think mobile devices have a great contribution to education (S10).

Günümüzde her birimiz teknolojik cihazlardan birine sahibiz ve internete ulaşmak da bizler için yine zor değil. Bilmediğin kelimeleri öğrenmek istemeye çalıştığında kalem ve kâğıda maruz kalmak artık yok (S5).

Today, each of us has at least one of the technological devices and it is not difficult for us to access the internet. No more exposure to pen and paper when you try to learn words you do not know (S5).

On mobile devices, numerous applications teach languages, particularly vocabulary, and this has a big impact on vocabulary growth. These apps are not only easy to use, but they also make learning vocabulary fun because they are frequently created as games that let students learn while having fun.

Teknoloji sayesinde dil öğrenmeyi teşvik edici ve kolaylaştırıcı pek çok uygulamalar var (S11).

Thanks to technology, there are many applications that encourage and facilitate language learning (S11).

Modern çağda teknoloji hayatımızın her alanında yer almaktadır. Yabancı dil öğreniminde de mobil cihazların katkısı çoktur, mobil cihazların sayesinde dil öğrenimi daha kolay bir hale geldi (S14).

In the modern age, technology takes a place in every aspect of our lives. The contribution of mobile devices to foreign language learning is also great, thanks to mobile devices, language learning has become easier (S14).

Learning is cheaper

Language learning has never been as cheap as it is now. Students enrol in pricey courses and occasionally pay private tutors, but thanks to the many benefits of mobile devices for language learning, a diligent person can pick up a new language without attending a course or taking private lessons. There are countless resources on the internet where one can be exposed to the language after acquiring a general knowledge of grammar. Additionally, students have to buy many resources and books in hard copy and have to pay a significant amount of money for each; however, mobile devices contain many books, worksheets, and magazines as e-books or pdfs. Learners can use all these resources on a single device for a very small fee or generally for free.

Yabancı dil kaynaklarının pahalı olduğu bu dönemde, birden fazla kitap almak yerine online uygulamalarla birçok seçeneğe sahip olabiliyoruz ve bu biz öğrenciler için çok güzel bir şey (S2).

In this period when foreign language resources are expensive, we can have many options with online applications instead of buying more than one book, and this is a very good thing for us students (S2).

To sum up this section, when the responses to the question about the benefits of Blended Mobile Learning in vocabulary learning, which was posed to English Preparatory class students, are analyzed, the students believe that the most significant benefits of learning vocabulary with Blended Mobile Learning are that it is more memorable and faster, followed by fun, ease, and inexpensive learning as displayed in Figure 29.

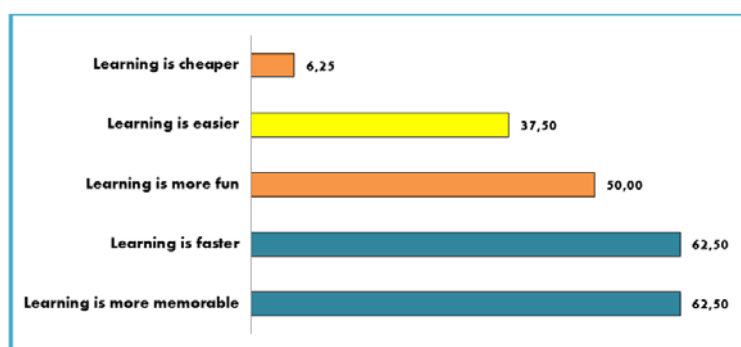


Figure 29 Charts of advantages of Blended Mobile Learning in vocabulary development

2. Benefits of Mobile Devices in Vocabulary Development

We questioned experimental group students about how mobile devices and applications contribute to vocabulary learning. Students who find BML highly beneficial indicated that mobile devices are an indispensable part of education, and they also make vocabulary learning fun by making it less stagnant. Respectively, appealing to different learning senses, enabling repetition, allowing learning without restrictions of place and time (*ubiquitous learning*), containing many different types of activities, and exposing and practising vocabulary are the most important features of mobile devices.

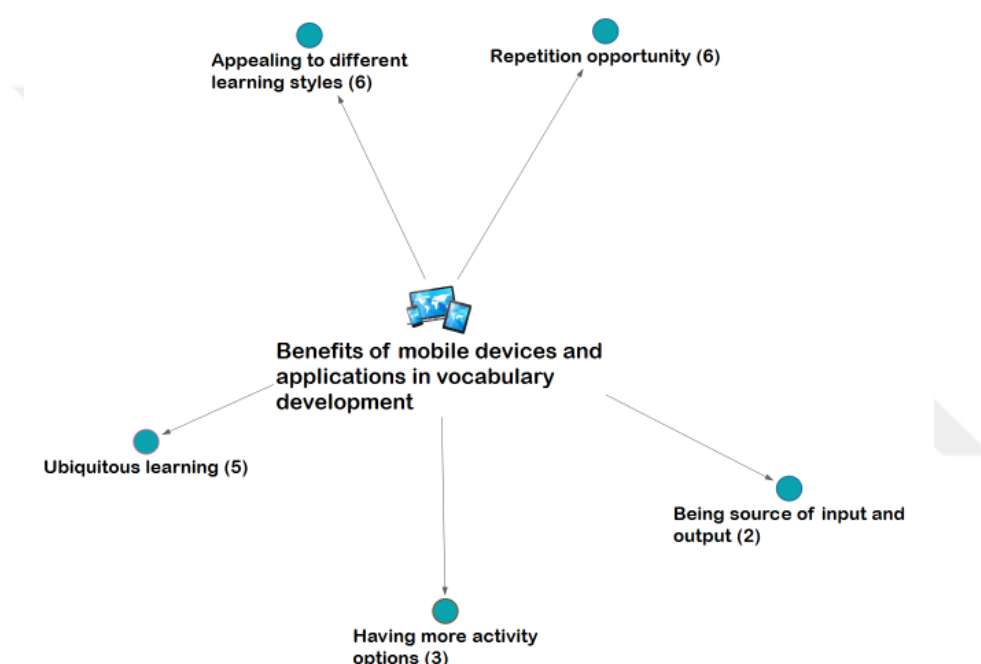


Figure 30 Benefits of mobile devices in vocabulary development

Appealing to different learning styles

The term learning styles refers to the view that different people learn information in different ways. Each student has a different learning style that determines how they focus, process, absorb and remember new and challenging information. It is very important to use a complete learning style model that defines each person's strengths and priorities (International Network of Learning Styles, 2008). The applied activity and teaching method should appeal to different learning styles so that each student can learn in the way that suits them.

Mobile devices contain many features in one single tool and they include

thousands of applications so that each individual can find an appropriate learning style for their vocabulary development. While a student who enjoys visual elements learns by watching videos or flashcards, someone else who likes auditory learning can listen to songs or podcasts and work out the words there. Whereas one student wants to learn words by playing games or solving puzzles, another one can study vocabulary by reading. Thanks to mobile devices, everyone can find a learning method that suits them. For instance, S6 states that mobile tools are “more attractive thanks to their visual and auditory activities.” Most of the students focus on the visual aspect of handheld devices:

Görsel olarak pratik yaptığımız için bazen kelimenin anlamını hatırlamazsam bile resmini göz önünde bulundurarak hatırlamaya çalışırım (S3).

Since we practice visually, sometimes I try to remember the meaning of the word from the picture even if I do not remember it (S3).

Uygulamanın kelimeleri görsel olarak zenginleştirip size sunması daha kaliteli bir öğrenime katkıda bulunur (S4).

The fact that the application visually enriches the words and presents them to you contributes to better learning (S4).

Repetition opportunity

Repetition is a very important technique for word retention in vocabulary learning. Though repetition is quite important for intentional learning, it is also crucial to encounter a word many times for incidental acquisition of vocabulary. “L1 and L2 incidental learning studies have found that the number of times an unknown word is met in context affects whether its meaning will be acquired (e.g. Horst et al. 1998; Jenkins et al. 1984; Saragi et al. 1978)” (Cited from Webb, 2007, p. 46). According to the results of a study done by Jenkins et al. (1984), students who encountered words ten times outperformed those who encountered them just twice. Mobile devices provide a great opportunity to repeat lexical items because activities, videos, or worksheets remain in the archive of mobile tools and are accessible at any time. For example, S3 expresses that “thanks to mobile devices, we can repeat the same subject or lesson in a short time.”

Benzer kelimeleri her hafta tekrar edip bunları bazı etkinliklerle desteklemenin, kelime ezberlememe uzun vadede katkısı oldu (S10).

Repeating similar words every week and supporting them with some activities contributed to my memorization in the long term (S10).

Uygulamanın sürekli olarak kelimeleri karşınıza çıkarması daha kaliteli bir öğrenime katkıda bulunur (S4).

The fact that the application constantly brings up the words contributes to better learning (S4).

Ubiquitous learning

E-learning first became popular in the late 1980s and early 1990s. Since then, mobile devices have been widely used for communication, business, and playing games. Being ubiquitous and having internet access supply an opportunity to reach information easily and quickly. Recently, mobile tools started to be highly used for educational purposes, as well. With mobile learning, there have been significant advances made in the field of education. Additionally, as wireless networks advance, ubiquitous learning (U-learning) has become the most well-liked learning method (Ye and Hung, 2010). Being ubiquitous means learning is possible anytime and anywhere through internet networks (Ye and Hung, 2010). The learners have the option to learn while on the bus, on a train journey, or anywhere outside of the school thanks to mobile learning (M-learning). They can learn at any time and from anywhere (Miangah and Nezarat, 2012; Vavoula and Karagiannidis, 2005).

Similarly, S5 stated that “while lying in bed after an intense pace, learning vocabulary or doing exercises that will contribute to our vocabulary development via mobile devices are simpler and more fun.” Additionally, “It is a great advantage to have a mobile device at hand whenever you want” (S4). When the influence of mobile technology on teaching is analyzed, it is unquestionable that one of the most effective advantages is ubiquitous learning.

Mobil bir cihaza sahip olmak sayesinde istediğimiz anda istediğimiz yerde ders çalışıp istediğimiz bilgileri alabildik (S2).

Thanks to having a mobile device, we were able to study whenever and wherever we wanted and get the information we wanted (S2).

İstediğim zaman cep telefonumdan girip kelime ezberleyebiliyorum (S10).

I can enter from my mobile phone whenever I want and memorize words (S10).

Hayatımızın her alanında istediğimiz zaman mobil cihazlar sayesinde dil öğrenimini gerçekleştirebiliyoruz (S14).

We can learn languages in every part of our lives whenever we want, thanks to mobile devices (S14).

Having more activity options

Mobile devices, which are developing more and more in terms of applications, “are very useful with the games, puzzles and repeated activities they contain” (S8). Applications for teaching vocabulary are very entertaining and they teach vocabulary with a wide variety of games and activities. They teach vocabulary sometimes with puzzles, sometimes with matching or storytelling, and sometimes through games, and this situation is very pleasing to students.

Kelime öğrenmek için bir sürü uygulama var ve bu uygulamalar eğlenceli ve öğreticidir. Durağan değildir. Bence mobil cihaz ve uygulamalar dil eğitimi için olmazsa olmazlardandır (S9).

There are loads of apps for learning vocabulary and these apps are fun and educational. It is not static. In my opinion, mobile devices and applications are indispensable for language education (S9).

Being a source of input and output

Location-free support for interaction and language acquisition is a potential new dimension that has been possible through the widespread ownership of personal, portable devices (Demouy & Kukulska-Hulme, 2010). Mobile devices are important sources of input in language learning, thanks to the applications they contain and because these devices can easily enable access to many language learning resources via the internet. Learners are exposed to significant input by watching videos, listening to podcasts and foreign language songs, and reading from all kinds of sources.

Çoğu dilci telefon vs. teknolojik bir araç olmadan zaten yapamaz bence çünkü birçok kelimeyi öğrenmemiz gerek ve bunun için saatlerce el sözlüklerine bakmak yerine telefondaki bazı uygulamalar istediğimiz bilgileri edinmemize ve vaktimizin boşuna gitmemesine yardımcı oluyor (S16).

I think most language learners cannot do without a phone because we need to learn many words and instead of looking at printed dictionaries for hours, some applications on the phone help us get the information we need and not waste our time (S16).

In language learning, there is a significant role of interaction which leads to the improvement of speaking skills (Long, 2017); however, due to limited physical language practice contexts or some personal reasons like anxiety and shyness, learners do not get the opportunity to practice the target language. Thus, mobile devices, turning the world into a village and creating virtual environments for

practising the language, provide the chance to practise a foreign language for language learners.

Yabancı dil öğrenmek için pratik yapmak şart mobil cihazlar sayesinde yabancı dizi, film, şarkı, ders videoları izleyebilirsiniz bu açıdan çok çok faydalı (S3).

In order to learn a foreign language, practice is a necessity. Thanks to mobile devices, you can watch foreign series, movies, songs, and lecture videos, which is very useful in this respect (S3).

All of the students expressed positive opinions about mobile tools and BML. Considering the answers given, one can conclude that BML is a more preferred method for students than the traditional method. Additionally, some of the activities that the instructor shared on Google Classroom were answered in class. While the activities shared in the Google classroom were answered during the lesson, nearly all the students expressed to the instructor that they found BML really beneficial and that they were learning vocabulary by having fun.

C. Findings of the Third Research Question

RQ.3. What are EFL students' views towards Blended Mobile Learning in general?

The third research question of this study explores students' opinions about BML in general. In the second research question, we investigated the contribution of BML to vocabulary learning, and in this question, we searched for what advantages the BML method has. For this, we asked students three different questions. The first was to write about the advantages of Blended Mobile Learning. In another question, we asked the students about the applicability of the BML method, and finally, we questioned the students about whether they preferred BML or traditional learning. The analysis of each question will be explained in detail. According to respondents' answers, there are three advantages of BML in general: learning is engaging, ubiquitous, and permanent.

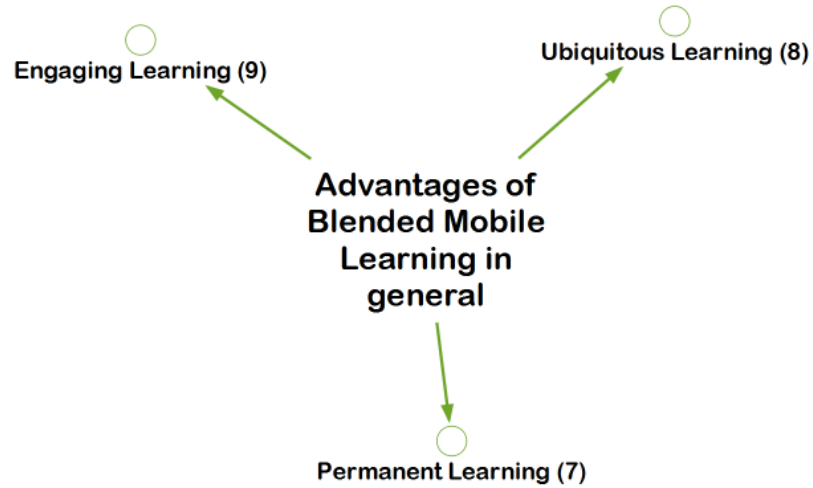


Figure 31 Advantages of BML in general

Engaging Learning

In comparison to pupils who passively take in what their teacher teaches them, active learners tend to comprehend more, pick up more information, remember it better, enjoy it more, and be better able to recognize the relevance of what they have learned. Therefore, educators face a formidable challenge: how to motivate and facilitate their students' participation in the learning process (Park, 2003).

Engagement is significant in education, especially in language learning. To engage the new generation with education, technological devices should be a part of education because they can only be attracted to technological devices. The new generation is intertwined with technology, and they were born in the age of digital technology; hence, they are called "digital natives." Those who were born before modern technology and are perhaps not so interested in technological tools are called "digital immigrants." An education system where technology is not at the centre does not satisfy this generation, for whom technology is almost even in the most extreme parts of their life. For this reason, almost all of the members of the experimental group emphasized that the traditional method is boring compared to Blended Mobile Learning. They emphasize that an education system in which technology is used is more interesting and motivates students more. "It also encourages me to study, and it is more fun" (S9).

Geleneksel eğitimde tekdüze eğitim vardı ve bu bizi yorup oldukça sıkıcı geliyordu. Harmanlanmış eğitimde birbirinden farklı etkinliklerle daha etkili öğrenmeye başladık. Öğrendiğimiz bilgileri eğlenceli uygulamalar yaparak daha kalıcı hale getirdik (S13).

There was monotonous education in traditional learning, and this made us tired and it was quite boring. We started to learn more effectively with different activities in blended education. The information we learned is more permanent because of fun applications (S13).

Örneğin harmanlanmış eğitim sayesinde geleneksel eğitimden verim alamayan ve teknoloji ile ilgisi olan kişilerin severek ve eğlenerek eğitim alabileceği bir ortam kurulup herkesin eşit derecede verim alması sağlandığı zaman her öğrenciye uygun bir eğitim tarzı benimsenmiş olur (S2).

For example, thanks to Blended Mobile Learning, an education style suitable for every student is adopted when an environment is established where people who cannot get efficiency from traditional education and who are interested in technology can study with pleasure and fun, and everyone gets equal efficiency (S2).

Geleneksel eğitime bağlı kaldığımızda kelime öğreniminde sadece kâğıda bağlı kalıyorduk bu da durumun daha sıkıcı bir hal almasına sebep oluyordu ama harmanlanmış eğitim sayesinde kelime öğrenimi daha kolay ve zevkli hale geldi (S14).

When we stuck to traditional education, we only depended on paper for vocabulary learning, which made the situation more boring, but thanks to blended learning, vocabulary learning has become easier and more enjoyable (P14).

Ubiquitous Learning

BML removes the student's education from being within four walls and provides the student with a wide range of time and places to learn. Because of this, it makes the instructor's job easier and allows him to teach more things in a more fun way. The teacher can teach the main theme of the lesson in the classroom and direct the student to online activities and games for reinforcement activities. Doing worksheets out of the classroom saves time for the teacher and allows students to learn while having fun as stated by S4: "We can consider it as a great advantage because it is unusual in terms of place, time, or form."

Geleneksel yöntemin, eğitimi bir sınıfla kısıtlandığını düşünüyorum oysaki harmanlanmış eğitim öyle değil mobil cihazınız yanınızdaysa sizin için her yer bir eğitim yuvası oluyor ve sınıfta gördüğümüz konuları cep telefonumuzdan çok rahat bir şekilde tekrar edip o konunun kalıcı olmasına yardımcı oluyor. (S10)

I think that the traditional method is limited to one classroom, whereas BML is not like that. If you have your mobile device with you, everywhere becomes an educational place for you and it helps you to repeat the topics that you have learned in the classroom on your mobile phone in a very comfortable way and helps that subject to be permanent (S10).

BML geleneksel eğitim yönteminin açıklarını kapatmakta ve her yerde, her anda konu tekrarı ve pratik yapma bakımından avantajlı bir yöntem (S5).

BML meets the deficits of the traditional method and is an advantageous method in terms of repetition and practice anywhere, anytime (S5).

Students can learn various subjects by studying on their own, through their mobile devices, in the absence of an instructor. In this respect, students can study incomprehensible subjects in a way that they like, without space and time constraints and without an educator.

Geleneksel yöntemle sadece ve sadece eğitmenin katılımının ve aktarımının olduğu bir eğitimle öğrencinin verim alması beklenemez. Harmanlanmış eğitim sayesinde öğrenci, mobil cihaz ve uygulamalardaki etkinliklere kendi çabasını ekleyerek bir şeyler öğrenme yolunda olumlu adımlar atar (S8).

With the traditional method, it is not expected that the student will gain efficiency with an education in which only the participation and transfer of the educator are involved. Thanks to BML, the student takes positive steps towards learning something by adding his own effort to activities on mobile devices and applications (S8).

Geleneksel yöntemle kıyaslandığında harmanlanmış yöntem daha faydalıdır çünkü geleneksel yöntemde sadece sınıf içinde hocaların anlattığı kadarıyla bir şeyleri öğrenebiliyoruz, ama harmanlanmış yöntem ile gerek videolarla gerek internetle birçok şeyi araştırıp akılda kalmasını daha etkili kılabiliriz (S11).

Compared to the traditional method, BML is more beneficial because in the traditional method, we can only learn something as much as the teacher conveys in the classroom, but with the BML, we can search many things both with videos and on the internet and make it more effective to keep in mind (S11).

Harmanlanmış eğitim sayesinde, geleneksel eğitimden verim alamayan ve teknoloji ile ilgisi olan kişilerin severek ve eğlenerek eğitim alabileceği bir ortam kurulur (S2).

Thanks to Blended Mobile Learning, an environment is established where people who cannot get efficiency from traditional education and who are interested in technology can receive education with pleasure and fun (S2).

Permanent Learning

Generally, a significant portion of what pupils learn in school tends to be forgotten after the last exam. The reasons for this may differ from teacher to teacher, but one reason is that there are so many topics to master that it is impossible to acquire them all effectively. Students are frequently forced to learn a body of

information that does not fascinate them and is far simpler to forget than to remember because these topics generally are meaningless for students. As noted by Kuhns (1977), “teaching for permanent learning must go beyond the dissemination of information to the development of student interests and thinking abilities” (p. 14).

In the traditional model of education, students are exposed to lots of information every day or hours of teacher lectures in schools. They often forget most of what they have learned in a short time because learning is not permanent without love or interest. The interests of the students should be taken into consideration while teaching. Today's generation is very fascinated with technology, so it is very important to provide permanent education by using technology or to make technology a part of education. According to experimental group answers, students are most satisfied with the permanent aspects of BML. For example, S13 stated that “Rather than the inefficiency of traditional education, BML should be preferred because it teaches information more actively and permanently.”

Harmanlanmış Öğrenme, öğrenme isteğini arttırmasının yani sıra derse olan isteği ve kelimelerin akılda kalıcılığını sağlıyor (S7).

In addition to increasing the desire to learn, Blended Mobile Learning provides the desire for the lesson and helps the retention of the words (S7).

Harmanlanmış Mobil Öğrenme dersleri çok daha eğlenceli ve akılda kalıcı yapmaktadır. Ezbere sistemden ziyade öğrencilerin unutmaması için daha önemli bir yol olduğunu düşünüyorum (S1).

Blended Mobile Learning makes lessons much more fun and memorable. I think there is a more important way for students not to forget than the rote system (S1).

BML sayesinde yapılan aktiviteler daha uzun ömürlü bir öğrenim sağlar (S6).

Activities performed with BML provide longer-lasting learning (S6).

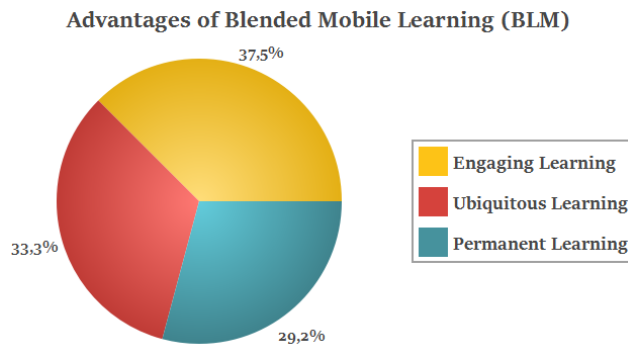


Figure 32 Advantages of BML

In another question, students were asked about their opinions on the applicability of BML (in terms of using technological devices), and 87.50 per cent of the students agree on its applicability.

Table 16 The Applicability of Blended Mobile Learning

	Frequency	Percentage
Applicable	14	87.50
Inapplicable	0	0.00
Drawbacks	2	12.50
Total	16	100.00

Students, who claim that BML is applicable, argue that technology has developed a lot and there are mobile devices in every home.

Herkesin evinde en az bir bilgisayarın olduğu bu dönemde harmanlanmış eğitimde uygulanabilirlik açısından büyük sorunlar yaşanacağını düşünmüyorum (S2).

In this period when everyone has at least one computer at home, I do not think that there will be major problems in terms of applicability in blended education (S2).

Her bakımdan teknolojiyle iç içe olduğumuz için, harmanlanmış eğitimde de teknoloji, öğrenme konusunda çok yararlıdır (S7).

Since we are intertwined with technology in every field, technology is also very useful in learning in blended learning (S7).

Günümüzde teknolojik aletler hepimizin elinde var ve bir sürü uygulama ve internetle bizler harmanlanmış eğitimi kolayca yapabiliriz (S9).

Today, we all have technological tools in our hands, and with a lot of applications and the internet, blended learning can easily be applied. (S9).

Günümüz dünyasında teknolojik aletler oldukça yaygın olduğu için harmanlanmış eğitime çok rahat erişebilir ve kalıcı öğrenmeye ulaşabiliriz (S13).

Since technological tools are quite common in today's world, we can easily access blended education and achieve permanent learning (P13).

None of the participants stated the inapplicability of the BML, yet just two students expressed some limits to effective BML. They stated that mobile devices may be distractive in education and that overuse of mobile devices may be unhealthy.

Aslında, öğretimin teknolojiyle birleşmesi çok iyi bir durum. Fakat teknolojik cihazlar sağlığımızı biraz tehdit ettiği için bir bakıma zararlı olabilir diye düşünüyorum (S11).

In fact, it is a very good situation that teaching merges with technology. However, I think that technological devices can be harmful in a way that they may threaten our health a little bit (S11).

Yabancı dil alanında öğretmeyi amaçlayan mobil cihaz uygulamaları anlaşılabilir ve kullanımı kolay bir halde ama başka bir yönden teknolojik cihazlar öğrencilerin dikkatini dağıtmakta çok iyiler. Öğrenmeyi bir görev olarak değil de bir etkinlik olarak gördüğümüz anda da teknolojik cihazlarımızda bir şeyler öğrenmeye değer verip zaman ayırmaya çalışacağız (S5).

Mobile device applications that aim at teaching foreign languages are understandable and easy to use; on the other hand, technological devices are very good at distracting students. As soon as we see learning as an activity rather than a task, we will try to devote time to learning something on our technological devices (S5).

In the last open-ended question, students were asked which they prefer: the traditional method or the BML, and 93.8% of the students noted that they prefer Blended Mobile Learning. This percentage is quite high and is a clear indication that students strongly like BML.

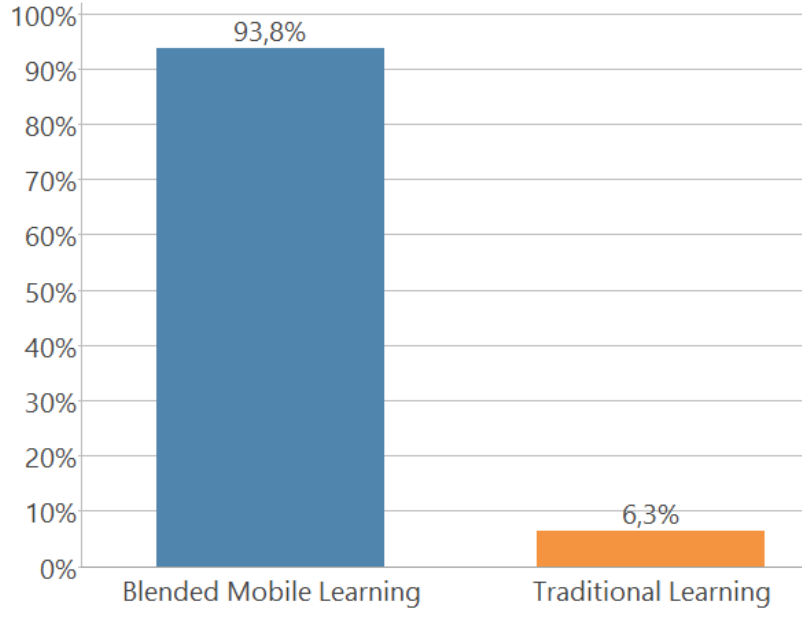


Figure 33 Students' preferences of BML or TL

Some of the students' answers are compiled below:

Geleneksel yöntem yerine harmanlanmış ortamda ders almayı daha çok isterim çünkü hem geleneksel hem de teknolojik cihazlar kullanabiliyorsun bu açıdan öğrenciye çok şey katar. Bir de teknoloji

hayatımıza çok etki ettiği için mobil cihazlar eğitim açısından bize çokça faydası olduğunu düşünüyorum (S3).

I would rather take lessons in a blended environment instead of the traditional method because you can use both traditional techniques and technological devices, which adds a lot to the student in this respect. I also think that mobile devices are very beneficial for us in terms of education since technology has a great impact on our lives (S3).

Geleneksel yöntem bazı alanlarda harmanlanmış eğitimden daha etkili ama kendi başına da sağlıklı bir öğrenim alanı oluşturduğunu düşünmüyorum. Bu yüzden harmanlanmış eğitim hem bazı alanlarda daha etkili olan geleneksel eğitim yöntemini barındırıyor hem de geleneksel eğitim yönteminin açıklarını kolay ve eğlenceli şekilde kapatıyor. Harmanlanmış eğitim yöntemini tercih ederim (S5).

The traditional method is more effective than blended education in some areas, but I do not think it creates a healthy learning area on its own. For this reason, BML both includes the traditional education method, which is more effective in some areas, and closes the gaps of the traditional education method in an easy and fun way. I prefer BML (S5).

Harmanlanmış eğitimi tercih ederim. Çünkü geleneksel olarak aldığım eğitimi online olarak pekiştirmek çok etkili olur. Harmanlanmış eğitimin en iyi yanı istediğin vakit eğitime devam edebilmek. Sabah geleneksel eğitimi aldıktan sonra istediğimiz vakitte kalan eğitimimize online devam edebiliriz (S15).

I prefer Blended Mobile Learning because it would be very effective to reinforce my traditional education with online education. The best thing about Blended Mobile Learning is that you can continue your education whenever you want. After taking the traditional training in the morning, we can continue our training online whenever we want (S15).

Harmanlanmış eğitimi tercih ederim çünkü derse olan isteği artırıyor ve çoğu şeyi daha akılda kalıcı olmasını sağlıyor (S7).

I prefer BML because it increases the enthusiasm for the lesson and makes many things more memorable (S7).

Harmanlanmış eğitimi tercih ederim. Çok avantajlı. Ben eğlenerek öğrenmeyi tercih ederim (S9).

I prefer BML. It is very advantageous. I prefer to learn by having fun (S9).

Ben kesinlikle harmanlanmış eğitimi tercih ederdim çünkü kesinlikle daha yararlı olduğunu düşünüyorum. Okulda öğrendiğimiz konuyu evde tekrar etmek ya da bir konuyu evde kendim öğrenmek tercih edeceğim bir şey (S10).

I would certainly prefer BML because I definitely think that it is more beneficial. To repeat the subject we learned at school while we are at home or to learn a subject by myself at home is something I would prefer (S10).

Harmanlanmış eğitim ile geleneksel eğitim karşılaştırıldığında harmanlanmış eğitim kullanımını tercih ederim çünkü harmanlanmış eğitimin sunduğu müzik, video ve görsel efektler sayesinde kelime öğrenimi daha kolay ve eğlenceli oluyor böylelikle sıkılmadan dil öğrenimini sürdürebiliyoruz (S14).

I prefer BML compared to traditional education because, thanks to the music, video, and visual effects offered by blended education, vocabulary learning is easier and fun, so we can continue language learning without getting bored (S14).

İki yöntemle ilgili bir kıyaslama yapılacaksa ben harmanlanmış eğitimi tercih ederim çünkü sürekli ders, okul çoğu öğrencinin hoşlanmadığı bir yöntem ama harmanlanmış eğitim ile eğlenceli bir şekilde eğitim verilir ve öğrenciler eğlence ile eğitim bir arada olduğu için sıkılmaz (S16).

If a comparison is to be made between the two methods, I would prefer BML because continuously having lessons at school is a method that most students do not like, but with BML, teaching is done in a fun way and students do not get bored because fun and education go together (S16).

Only one of the students stated that it would be difficult to focus on the lesson in the virtual classroom and preferred the traditional method.

Her ne kadar harmanlanmış eğitim iyi olsa da geleneksel eğitimde daha fazla odaklanabiliyoruz. Çünkü sanal bir ortam değil istediğin gibi hareket edemezsin, belli bir konuya odaklanmak zorundasın (S11).

Although blended mobile education is good, we can focus more on traditional education. Because it is not a virtual environment, you cannot act as you want; you have to focus on a certain subject (S11).

V. CONCLUSION AND PROPOSALS

This study was conducted with Van Yüzüncü Yıl University students to learn the effect of Blended Mobile Learning on EFL students' vocabulary development and their views on BML. In this quasi-experimental study, there was a control group and an experimental group which were randomly classified by the management of the School of Foreign Languages. Over 14 weeks, besides face-to-face education with both groups, the experimental group students were provided with online activities through a virtual classroom set up on the Google Classroom application. There was no place or time restriction for online study. Before starting the study, a pre-test was applied to the experimental and control groups to measure the vocabulary level of the students. At the end of the 14th week, the students were given a post-test and a comparison of the pre-test and post-test was made via the SPSS program. Additionally, a form including five open-ended questions was applied to the experimental group. On this occasion, students' views on Blended Mobile Learning were determined. These views were analysed one by one via the MAXQDA program.

The first goal of this study is to find out the influence of BML on students' vocabulary development. According to the pre-test results, there was a normal and homogeneous distribution between the control and experimental groups. Although the average of the control group was a little high, the averages were quite close. According to the post-test results, there was a substantial increase in the average of the experimental group (16.85), while there was a small increase in the control group (3.10). This displays that BML has a positive effect on students' vocabulary development.

The second purpose of this study is to learn EFL students' view of BML on vocabulary development. A form consisting of five open-ended questions was shared with the students online via Google Forms. The answers of 16 students were analysed with the MAXQDA (2020) program. In general, students consider that learning vocabulary with Blended Mobile Learning is faster, more memorable, more fun, easier, and cheaper. In addition, regarding the benefits of mobile devices in

vocabulary learning, students stated that these devices offer the opportunity to repeat the subjects or words; they appeal to different senses, especially audial and visual senses; mobile devices enable unlimited learning; they contain many different activities, and they are an effective source of input and output. Consequently, students have positive opinions about mobile learning and mobile devices.

Finally, this study aims to get EFL students' views on Blended Mobile Learning in general. According to respondents' answers which were analysed via MAXQDA 2020, BML leads to engaging, ubiquitous, and permanent learning. The students spend most of their time with their mobile devices so they claim that they can engage with appealing content anywhere and anytime thanks to handheld devices. They state that colourful pictures, interesting videos and songs, and vocabulary games appeal to them more compared to textbooks. 93.8% of the experimental group students are sure that BML is more attractive compared to traditional learning.

Although there are many studies on the contribution of mobile devices to education, there are still many issues that need to be clarified. For instance, what can be done to limit distracting factors of these devices? Also, it is not easy to follow and evaluate the training done with mobile devices. Those are some of the issues that need to be answered or for which solutions should be found. Nevertheless, since mobile devices are easier to use to support face-to-face education, BML may replace traditional methods in the future.

It is wrong to confine education to a set of four walls because it is a lifelong process. Since the younger generation is digitally native, mobile devices attract their attention and tempt them to explore the exciting and resource-rich world of mobile devices rather than learning from a single teacher. These tools should be used to supplement face-to-face instruction rather than as a replacement for it. The teaching and learning approach of the present and the future may be Blended Mobile Learning.

VI. REFERENCES

BOOKS

- AEBERSOLD, J. A., & FIELD, M. L. (1997). **From Reader to Reading Teacher**, New York, Cambridge University Press.
- CHAPELLE, C. (2001). **Computer Applications in Second Language Acquisition: Foundations for Teaching, Testing, and Research**, Cambridge, Cambridge University Press.
- CRESWELL, J. W. (2012) **Planning, Conducting, and Evaluating Quantitative and Qualitative Research**, Pearson, University of Nebraska–Lincoln, 4th Edition
- CUBAN, L. (2001). **Oversold and Underused: Computers in the Classroom**, Cambridge, MA, Harvard University Press.
- DÖRNYEI, Z. (2007). **Research Methods in Applied Linguistics: Quantitative, Qualitative and Mixed Methodologies**, Oxford, Oxford University Press.
- EGBERT, J. (2005). **CALL Essentials. Principles and Practice in CALL Classrooms**, Alexandria, VA: TESOL.
- GAIRNS, R., & REDMAN, S. (1986). **Working with Words: A Guide to Teaching and Learning Vocabulary**, Cambridge, Cambridge University Press.
- HATCH, E., & BROWN, C. (1995). **Vocabulary, Semantics, and Language Education**, New York, Cambridge University Press.
- HORNBY, A. S. (2000). **Oxford Advanced Learner's Dictionary of Current English**, Oxford, Oxford University Press, Vol. 7.
- LAURILLARD, D. (2013). **Rethinking University Teaching: A Conversational Framework for the Effective Use of Learning Technologies**, Routledge.
- MARSH, D (2012). **Blended Learning, Creating Learning Opportunities for Language Learners**, New York, Cambridge University Press.

- MAYKUT, P., & MOREHOUSE, R. (1994). **Beginning Qualitative Research: A Philosophic and Practical Guide**, London, The Falmer Press.
- NATION, I. S. P. (2001) **Learning Vocabulary in Another Language**, Cambridge, Cambridge University Press.
- NATION, I. S. P. (1990). **Teaching and Learning Vocabulary**, New York, Newbury House.
- NATION, I., & HUNSTON, S. (2013). **Learning Vocabulary in Another Language**, Cambridge, Cambridge University Press, 2nd Edition.
- OXFORD, L. R. (1990). **Language Learning Strategies. What Every Teacher Should Know**, Boston, Heinle & Heinle Publishers.
- SCHMITT, N. (2000). **Vocabulary in Language Teaching**, Cambridge, Cambridge University Press.
- TRAXLER, J., & KUKULSKA-HULME, A. (Eds.). (2007). **Mobile Learning: A Handbook for Educators and Trainers**, Routledge.
- UR, P. (2012). **A Course in English Language Teaching**, Cambridge University Press.
- WILKINS, D. (1972). **Linguistics in Language Teaching**, England, London, Arnold.

ARTICLES

- ABABNEH, S. (2017). "Using Mobile Phones in Learning English: The Case of Jordan", **Journal of Education and Human Development**, 6(4), 120-128.
- AAMRI, A., & SULEIMAN, K. (2011). "The Use of Mobile Phones in Learning English Language By Sultan Qaboos University Students: Practices, Attitudes and Challenges", **Canadian Journal on Scientific & Industrial Research**, 2(3), 143-152.
- ALEMI, M., SARAB, M. R. A., & LARI, Z. (2012). "Successful Learning of Academic Word List Via MALL: Mobile Assisted Language Learning", **International Education Studies**, 5(6), 99-109.
- AL-FARIS, S., & JASIM, B. Y. (2020). "Memory Strategies and Vocabulary Learning Strategies: Implications on Teaching and Learning

- Vocabulary”, **Journal of Humanities and Social Sciences Studies**, 3(10), 11-21.
- ALMURASHI, W.A. (2016). “The Effective Use of YouTube Videos for Teaching English Language in Classrooms As Supplementary Material at Taibah University in Alula”, **International Journal of English Language and Linguistics Research**, 4(3), 32–47.
- ALKAHTANI, S. (1999). “Teaching ESL Reading Using Computers”, **The Internet TESL Journal**, 5(11), 525-534.
- ALKHEZZI, F., & AHMED, M. S. (2020). “A Review of Mobile Learning Technology Integration: Models, Frameworks, and Theories”, **College Student Journal**, 54(4), 491-504.
- ALLY, M. (2013). “Mobile Learning: From Research to Practice to Impact Education”, **Learning and Teaching in Higher Education: Gulf Perspectives**, 1-10.
- BAŞOĞLU, E. B., & AKDEMİR, O. (2010). “A Comparison of Undergraduate Students' English Vocabulary Learning: Using Mobile Phones and Flash Cards”, **Turkish Online Journal of Educational Technology-TOJET**, 9(3), 1-7.
- BUSCH, H. J. (2003) “Computer Based Readers for Intermediate Foreign-Language Students”, **Educational Media International**, 40 (3-4), 277-185.
- CHEON, J., SANGNO, L., CROOKS, S.M., & SONG, J. (2012). “An Investigation of Mobile Learning Readiness in Higher Education Based on the Theory of Planned Behavior”, **Computers & Education**, 59, 1054-1064.
- CHUN, D., KERN, R., & SMITH, B. (2016).”Technology in Language Use, Language Teaching, and Language Learning”, **The Modern Language Journal**, 100 (S1), 64-80.
- CHUN, D., & PLASS, J. (1996). “Effects of Multimedia Annotations on Vocabulary Acquisition”, **The Modern Language Journal**, 80(2), 183-198.
- CORBEIL, J.E., & CORBEIL, M.E. (2011). “Are We Ready for Mobile Learning Now? 2007 Mobile Learning Predictions Revisited”, **Issues in Information Systems**, XII (2), 142--152.

- CRAVEN, L. (2014). "Vocabulary Learning Strategies", **Bulletin**, (6), 9-15.
- DEAN B.A., HARDEN-THEW K., DELAHUNTY J., & THOMAS L. (2019) "Flexible Spaces and Sustainable Opportunities: Designing Online Professional Learning for Sessional Teachers", In: ZHANG Y., & CRISTOL D. (eds) **Handbook of Mobile Teaching and Learning**, (pp. 1-15) Springer, Singapore.
- DEMOUY, V., & KUKULSKA-HULME, A. (2010). "On the Spot: Using Mobile Devices For Listening And Speaking Practice On A French Language Programme", **Open Learning: The Journal of Open, Distance and e-Learning**, 25(3), 217-232.
- DZIUBAN, C. D., HARTMAN, J. L., & MOSKAL, P. D. (2004). "Blended learning", **Educause Center for Applied Research Bulletin**, 2004(7), 1-20.
- GARRISON, D. R., & KANUKA, H. (2004). "Blended Learning: Uncovering Its Transformative Potential in Higher Education", **Internet and Higher Education**, 7, 95–105.
- GRAHAM, C. R. (2006). "Blended Learning Systems: Definition, Current Trends and Future Directions". In BONK C. J. & GRAHAM C. R. (Eds.), **The Handbook of Blended Learning: Global Perspectives, Local Designs** (pp. 3–21). San Francisco: Pfeiffer.
- GRAHAM, C. R. (2013). "Emerging Practice and Research in Blended Learning", **Handbook of Distance Education**, 3, 333-350.
- GILLIES, R. M. (2016). "Cooperative Learning: Review of Research and Practice", **Australian Journal of Teacher Education**, 41(3), 39-54.
- GU, P. Y. (2021). "Vocabulary Learning Strategies", **Research Questions in Language Education and Applied Linguistics: A Reference Guide**, 273-277.
- GU, Y., & JOHNSON, R. K. (1996). "Vocabulary Learning Strategies and Language Learning Outcomes", **Language Learning**, 46(4), 643-679.
- HASHEMI, M., AZIZINEZHAD, M., NAJAFI, V., & NESARI, A. J. (2011). "What Is Mobile Learning? Challenges and Capabilities", **Procedia Social and Behavioral Sciences**, 30, 2477-2481.

- HOCKLY, N. (2013). "Technology for the Language Teacher: Mobile Learning", **ELT Journal**, 67(1), 80–84.
- HWANG, G.-J., TSAI, C.-C., & YANG, S. J. H. (2008). "Criteria, Strategies and Research Issues of Context-Aware Ubiquitous Learning", **Educational Technology & Society**, 11(2), 81–91.
- IRINA, A. (2012). "A Cell Phone in the Classroom: A Friend or a Foe?", **European Association for Computer-Assisted Language Learning (EUROCALL)**, 17-20.
- JENKINS, J. R., STEIN, M. L., & WYSOCKI, K. (1984). "Learning Vocabulary through Reading", **American Educational Research Journal**, 21(4), 767-787.
- KANG, P. T. (2010). "Teaching Online: What Does Blended Learning Require?", In **Web-Based Education: Concepts, Methodologies, Tools and Applications** (pp. 84-102). IGI Global.
- KESKIN, N. O., & METCALF, D. (2011). "The Current Perspectives, Theories and Practices of Mobile Learning", **Turkish Online Journal of Educational Technology-TOJET**, 10(2), 202-208.
- KOOLE M. (2009) "A Model for Framing Mobile Learning", In ALLY, M. (Ed.), **Mobile Learning: Transforming the Delivery of Education and Training** (pp. 25-47), Edmonton, AB: AU Press, Athabasca University.
- KRASHEN, S. (1989) "We Acquire Vocabulary and Spelling by Reading: Additional Evidence for the Input Hypothesis", **The Modern Language Journal**, 73(4), 440–464.
- KRASHEN, S. (1992). "The Input Hypothesis: An Update", **Linguistics and Language Pedagogy: The State of the Art**, 409-431.
- KUHNS, L. J. (1977). "Teaching for Permanent Learning", **NACTA Journal**, 14-16.
- KUKULSKA-HULME, A. (2005). "Mobile Usability and User Experience", **Mobile Learning: A Handbook for Educators and Trainers**, 45-56.
- KUKULSKA-HULME, A. & SHIELD, L. (2008). "An Overview of Mobile Assisted Language Learning: from Content Delivery to Supported Collaboration and

- Interaction”, **ReCALL: Research in Computer-Assisted Language Learning**, 20(3), 249–252.
- LAM, Y. (2000). “Technophilia vs. Technophobia: A Preliminary Look at Why Second-Language Teachers Do or Do Not Use Technology in Their Classrooms”, **Canadian Modern Language Review**, 56(3), 389-420.
- LAUFER, B. (1986). “Possible Changes in Attitude towards Vocabulary Acquisition Research”, **International Review of Applied Linguistics**, 24(1), 69-75.
- LAUFER, B. (1998). “The Development of Passive and Active Vocabulary in a Second Language: Same or Different?”, **Applied Linguistics**, 19(2), 255-271.
- LAUFER, B. (2003) “Vocabulary Acquisition in a Second Language: Do Learners Really Acquire Most Vocabulary by Reading?”, Some Empirical Evidence. **Canadian Modern Language Review**, 59(4): 567–587.
- LAWLESS, K. A., & PELLEGRINO, J. W. (2007). “Professional Development in Integrating Technology into Teaching and Learning: Knowns, Unknowns, and Ways to Pursue Better Questions and Answers”, **Review of Educational Research**, 77, 575–614.
- LIU, C. H., & MATTHEWS, R. (2005). “Vygotsky's Philosophy: Constructivism and Its Criticisms Examined”. **International Education Journal**, 6(3), 386-399.
- LONG, M. H. (2017). “Instructed Second Language Acquisition (ISLA): Geopolitics, Methodological Issues, and Some Major Research Questions”, **Instructed Second Language Acquisition**, 1, 7–44.
- LUIS R., & D'CUNHA, T. (2014). “The Role, Essence and Contributions of Educational Psychology to the Field of Education”, **International Journal of Education and Management Studies**, 4(4), 370-372.
- MAHAT, J., AYUB, A.F.M., & WONG, S.L. (2012). “An Assessment of Students’ Mobile Self-Efficacy, Readiness and Personal Innovativeness towards Mobile Learning in Higher Education in Malaysia”, **Procedia Social and Behavioral Sciences**, 64(9), 284-290.

- MAKAROVA, E. A. (2018). "Blending Pedagogy and Digital Technology to Transform Educational Environment", **International Journal of Cognitive Research in Science, Engineering and Education**, 6(2), 1-10.
- MAYER, R. E. (2002). "Multimedia Learning", **The Annual Report of Educational Psychology in Japan**, Vol. 41, 27-29
- MCGLINN, J. M., & PARRISH, A. (2002). "Accelerating ESL Students' Reading Progress with Accelerated Reader", **Reading Horizons: A Journal of Literacy and Language Arts**, 42(3), 2.
- MIANGAH, T. M., & NEZARAT, A. (2012). "Mobile-Assisted Language Learning", **International Journal of Distributed and Parallel Systems**, 3(1), 309.
- MISHRA, P., & KOEHLER, M. (2006). "Technological Pedagogical Content Knowledge: A Framework for Teacher Knowledge", **The Teachers College Record**, 108(6), 1017-1054.
- MOHAMMED, T. A., ASSAM, B. N., & SAIDI, M. (2020). "The Use of Web 2.0 Tools in the Foreign Language Classroom", **Journal of Educational and Social Research**, 10(2), 177-177.
- NATION, I. S. P. (2005). "Teaching Vocabulary", **Asian EFL Journal**, 7(3), 47- 54.
- NATION, I. S. P. (2006). "How Large a Vocabulary Is Needed for Reading and Listening?", **The Canadian Modern Language Review**, 63(1), 59-82.
- NEUMAN, S. B., & DWYER, J. (2009). "Missing in Action: Vocabulary Instruction in Pre-K", **The Reading Teacher**, 62(5), 384-392.
- OGATA, H., MATSUKA, Y., EL-BISHOUTY, M. M., & YANO, Y. (2009). "LORAMS: Linking Physical Objects and Videos for Capturing and Sharing Learning Experiences towards Ubiquitous Learning", **International Journal of Mobile Learning and Organisation**, 3(4), 337-350.
- OLAPIRIYAKUL, K., & SCHER, J. M. (2006). "A Guide to Establishing Hybrid Learning Courses: Employing Information Technology to Create a New Learning Experience, and a Case Study", **The Internet and Higher Education**, 9(4), 287-301.

- OLIVER, M., & TRIGWELL, K. (2005). "Can 'Blended Learning' Be Redeemed?", **E-learning and Digital Media**, 2(1), 17–26.
- OLPHEN, M. (2008). "TPCK: An Integrated Framework for Educating World Language Teacher", In AACTE (Ed.), **Handbook of Technological Pedagogical Content Knowledge (TPCK) for Educators** (pp. 117-138), New York, Routledge.
- O'MALLEY, J. M., CHAMOT, A. U., STEWNER-MANZANARES, G. L. O. R. I. A., RUSSO, R. P., & KÜPPER, L. (1985). "Learning Strategy Applications with Students of English as A Second Language", **TESOL Quarterly**, 19(3), 557-584.
- PALALAS, A. (2013). "Blended Mobile Learning: Expanding Learning Spaces with Mobile Technologies", **Global Mobile Learning Implementations and Trends**, 86-104.
- PARK, C. (2003). "Engaging Students in the Learning Process: the Learning Journal", **Journal of Geography in Higher Education**, 27(2), 183-199.
- PASHLER, H., MCDANIEL, M., ROHRER, D., & BJORK, R. (2008). "Learning Styles: Concepts and Evidence", **Psychological Science in the Public Interest**, 9(3), 105-119.
- PEARSON, P. D., HIEBERT, E. H., & KAMIL, M. L. (2007). "Vocabulary Assessment: What We Know and What We Need to Learn", **Reading Research Quarterly**, 42(2), 282–296.
- POWER, R. (2019) "Design of Mobile Teaching and Learning in Higher Education: An Introduction", In ZHANG, Y., & CRISTOL, D. (Eds), **Handbook of Mobile Teaching and Learning** (2nd ed., pp. 3-11). Singapore: Springer.
- PRENSKY, M. (2005). "What Can You Learn from a Cell Phone? Almost Anything!", **Innovate: Journal of Online Education**, 1(5).
- PUN, M. (2013). "The Use of Multimedia Technology in English Language Teaching: A Global Perspective", **Crossing the Border: International Journal of Interdisciplinary Studies**, 1(1), 29-38.
- QIZI, Q. Z. A. (2022). "Multiple Intelligences in Language Acquisition", **Ta'lim fidoyilari**, 7(8), 35-56.

- SARAN, M., & SEFEROĞLU, G. (2010). "Supporting Foreign Language Vocabulary Learning through Multimedia Messages via Mobile Phones", **Hacettepe University Journal of Education**, 38, 252-266.
- SCHMITT, N. (1997). "Vocabulary Learning Strategies". In SCHMITT, N. and MCCARTHY, M. (eds). **Vocabulary: Description, Acquisition and Pedagogy**, (pp. 199-227), Cambridge: Cambridge University Press
- SHARMA, P. (2010). "Key Concepts in ELT – Blended Learning", **ELT Journal**, 64(4), 456- 458.
- SHARPLES, M. (2002) "Disruptive Devices: Mobile Technology for Conversational Learning", **International Journal of Continuing Engineering Education and Lifelong Learning**, 12(5/6), 504-520.
- SHARPLES M., TAYLOR J., VAVOULA G. (2006). "A Theory of Learning for the Mobile Age", In ANDREWS, R. & HAYTHORNTHWAITE, C. (Eds). **The Sage Handbook of E-learning Research** (pp.221-247), Sage publications.
- SHEN, W. W. (2003). "Current Trends of Vocabulary Teaching and Learning Strategies for EFL Settings. **Feng Chia Journal of Humanities and Social Sciences**, 7(1), 187-224.
- SIREGAR, M., & HASWANI, F. (2020). "Learner Types and Their Preferences in Learning English", **Budapest International Research and Critics in Linguistics and Education (BirLE) Journal**, 3(2), 777-783.
- SLAVIN, R. E. (2014). "Cooperative Learning and Academic Achievement: Why Does Groupwork Work?", **Anal. Psicol.** 30, 785-791.
- START, S. H. (2006). "Introduction to Data Analysis Handbook Migrant & Seasonal Head Start Technical Assistance Center Academy for Educational Development", **Journal of Academic**, 2(3), 6-8.
- STOCKWELL, G. (2010). "Using Mobile Phones for Vocabulary Activities: Examining the Effect of Platform", **Language Learning & Technology**, 14(2), 95-110.
- SUARTAMA, I. K. (2019). "Development of an Instructional Design Model for Mobile Blended Learning in Higher Education", **International Journal of Emerging Technologies in Learning**, 14(16).

- SUWANTARATHIP, O., & ORAWIWATNAKUL, W. (2015). "Using Mobile-Assisted Exercises to Support Students' Vocabulary Skill Development", **Turkish Online Journal of Educational Technology-TOJET**, 14(1), 163-171.
- TRINDER, J. (2007). "Mobile technologies and systems", In TRAXLER, J., & KUKULSKA-HULME, A. (Eds.), **Mobile Learning: A Handbook for Educators and Trainers**, (pp. 23-40). Routledge.
- TURBILL, J. (2015). "Transformation of Traditional Face-to-Face Teaching to Mobile Teaching and Learning: Pedagogical Perspectives", **Handbook of Mobile Teaching and Learning**, (pp. 221-234), Springer,.
- THORNTON, P., & HOUSER, C. (2005). "Using Mobile Phones in English Education in Japan", **Journal of Computer Assisted Learning**, 21(3), 217-228.
- WANG, Y. H., & SHIH, S. K. H. (2015). "Mobile-Assisted Language Learning: Effects on EFL Vocabulary Learning", **International Journal of Mobile Communications**, 13(4), 358. .
- WARSCHAUER, M., & MESKILL, C. (2000). "Technology and Second Language Teaching", **Handbook of Undergraduate Second Language Education**, 15, 303-318.
- WEBB, S. (2007). "The Effects of Repetition on Vocabulary Knowledge", **Applied linguistics**, 28(1), 46-65.
- WONG, A. K., & Ng, A. (2018). "Design of Blended Mobile Learning in an Urban Environment", In **I. Management Association (Ed.), Online Course Management: Concepts, Methodologies, Tools, and Applications** (pp.796-817). IGI Global.
- ZHANG, Y. (2019). "Characteristics of Mobile Teaching and Learning". In ZHANG, Y., & CRISTOL, D. (Eds.), **Handbook of Mobile Teaching and Learning**, (2nd ed., pp. 11-28). Singapore: Springer.

ENCYCLOPEDIAS

- KINSHUK, G. S. (2012). "Ubiquitous Learning", In SEEL, N.M. (eds) **Encyclopedia of the Sciences of Learning**. Springer, Boston.

ELECTRONIC SOURCES

PUENTEDURA, R. (2013). "SAMR: Moving from Enhancement to Transformation", <http://www.hippasus.com/rrpweblog/archives/000095.html>, (Access date: 18.05.2021).

STEVE L. (2018). "4 Types of Phones" <https://tr.gearbest.com/blog/how-to/4-types-of-phones-phablet-dumb-phone-smartphonewatch-phone-2892> (Access date: 10.11.2020).

DISSERTATIONS

COCCO, S. (2006). "Student Leadership Development: The Contribution of Project-Based Learning", Unpublished Master's Thesis, Royal Roads University, Victoria, BC.

OTHER SOURCES

BOHMER, M., HECHT, B., SCHONING, J., KRUGER, A., & BAUER, G. (2011). "Falling Asleep with Angry Birds, Facebook and Kindle: A Large Scale Study on Mobile Application Usage", Proceedings of the 13th International Conference on Human Computer Interaction with Mobile Devices and Services. Stockholm, Sweden: Paper presented at MobileHCI 2011.

BOUCA, M. (2012). "Angry Birds, Uncommitted Players", Proceedings of DiGRA Nordic 2012 Conference: Local and Global - Games in Culture and Society. DiGRA.

DARMI, R., & ALBION, P. (2014). "A Review of Integrating Mobile Phones for Language Learning", Paper presented at the 10th International Conference Mobile learning.

MACCALLUM, K., & PARSONS, D. (2016). "A Theory-ology of Mobile Learning: Operationalizing Learning Theories with Mobile Activities", 15th World Conference on Mobile and Contextual Learning at: Sydney, Australia.

THORNTON, P., & HOUSER, C. (2004). "Using Mobile Phones in Education", In The 2nd IEEE International Workshop on Wireless and Mobile Technologies in Education, 2004.Proceedings, 3-10.

- VAVOULA, G., & KARAGIANNIDIS, C. (2005). "Designing Mobile Learning Experiences", In Panhellenic Conference on Informatics, Springer, Berlin, Heidelberg, 534-544.
- WATSON, J. (2008). "Blended Learning: The Convergence of Online and Face-to-Face Education". North American Council for Online Learning Report.
- YE, S. H., & HUNG, Y. C. (2010). "The Study of Self-Seamless Teaching Strategy for Ubiquitous Learning Environments", In 2010 6th IEEE International Conference on Wireless, Mobile, and Ubiquitous Technologies in Education, (pp. 182-186).



APPENDICES

Appendix 1: Pre and Post Test

Sevgili Öğrenciler,

Bu testin amacı kelime seviyenizi ölçmektir. Bu test iki bölümden oluşmaktadır. 1. bölüm her biri 4 puan olan 16 sorudan, 2. bölüm ise her biri 2 puan olan 18 sorudan oluşmaktadır. Testin süresi 60 dakikadır.

Teşekkür ederim.

**Mehmet ASLAN
İstanbul Aydın
Üniversitesi
İngiliz Dili ve Edebiyatı
Doktora Programı
öğrencisi**

VOCABULARY TEST

NAME:

SURNAME:

PART 1: For questions 1 – 16, read the text below and decide which answer (A, B, C or D) best fits each gap. Circle the correct answers. (Each question is 4 points)

There is an example at the beginning (0).

0 A band B set C branch D series

What is genealogy?

Genealogy is a (0) of history. It concerns family history, (1) than the national or world history studied at school. It doesn't merely involve drawing a family tree, however – tracing your family history can also (2) in learning about your roots and your identity.

The internet enables millions of people worldwide to (3) information about their family history, without great (4)

People who research their family history often (5) that it's a fascinating hobby which (6) a lot about where they come from and whether they have famous ancestors.

According to a survey involving 900 people who had researched their family history, the chances of discovering a celebrity in your past are one in ten. The survey also concluded that the (7) back you follow your family line, the more likely you are to find a relation who was much wealthier than you are. However, the vast majority of people who (8) in the survey discovered they were better off than their ancestors.

- | | | | | | | | | |
|---|---|------------|---|--------------|---|----------|---|------------|
| 1 | A | instead | B | rather | C | except | D | sooner |
| 2 | A | cause | B | mean | C | result | D | lead |
| 3 | A | accomplish | B | access | C | approach | D | admit |
| 4 | A | fee | B | price | C | charge | D | expense |
| 5 | A | describe | B | define | C | remark | D | regard |
| 6 | A | reveals | B | opens | C | begins | D | arises |
| 7 | A | older | B | greater | C | higher | D | further |
| 8 | A | attended | B | participated | C | included | D | associated |

The oldest leather shoe in the world

Archaeologists report that a perfectly preserved 5,500-year-old shoe has been discovered in a cave in Armenia in south-west Asia. It is **(9)** to be the oldest leather shoe ever found.

The shoe was made of a single piece of leather, stitched at the front and back, and was shaped to fit the wearer's foot. It had been **(10)** with grasses, either for warmth or to make sure it kept its shape. 'The shoe is relatively small but we can't say for **(11)** whether it was worn by a man or a woman,' says Dr Ron Pinhasi, an archaeologist on the research **(12)** 'We thought at first that it was about 600-700 years old because it was in such good shape.'

Shoes of this type from later periods have turned **(13)** in archaeological excavations in various places in Europe, and shoes of a very similar design were still being used on the Aran Islands off the west coast of Ireland as **(14)** as the 1950s. It's **(15)** a style which **(16)** popular for thousands of years.

- | | | | | |
|-----------|--------------------|-------------------|--------------------|----------------------|
| 9 | A accepted | B regarded | C assessed | D believed |
| 10 | A stuffed | B loaded | C pushed | D blocked |
| 11 | A clear | B specific | C true | D certain |
| 12 | A class | B force | C team | D company |
| 13 | A over | B into | C up | D about |
| 14 | A recently | B lately | C presently | D immediately |
| 15 | A correctly | B exactly | C precisely | D obviously |
| 16 | A held | B stood | C remained | D lasted |

PART 2: For questions **1 – 18**, read the text below. Use the word given in capitals to form a word that fits in the gap. (Each question is 2 points)

An incredible vegetable

Garlic, a member of the Liliaceae family which also includes onions, is **(1)** **(COMMON)** used in cooking all around the world. China is currently the largest **(2)** **(PRODUCT)** of garlic, which is particularly associated with the dishes of northern Africa and southern Europe. It is native to central Asia and has long had a history as a health-giving food, used both to prevent and cure **(3)** **(ILL)**. In Ancient Egypt, workers building the pyramids were given garlic to keep them strong, while Olympic athletes in Greece ate it to increase their resistance to infection.

The forefather of antibiotic medicine, Louis Pasteur, claimed garlic was as **(4)** **(EFFECT)** as penicillin in treating infections. Modern-day **(5)** **(SCIENCE)** have proved that garlic can indeed kill bacteria and even some viruses, so it can be very useful for people who have coughs and colds. In **(6)** **(ADD)**, some doctors believe that garlic can reduce blood **(7)** **(PRESS)**. The only **(8)** **(ADVANTAGE)** to this truly amazing food is that the strong and rather **(9)** **(SPICE)** smell of garlic is not the most pleasant!

Family bike fun

National Bike Week was celebrated last week in a **(10)** **(MEMORY)** way with a Family Fun Day in Larkside Park. The event **(11)** **(PROOF)** to be highly successful with over five hundred people attending.

Larkside Cycling Club brought along a **(12)** **(VARY)** of different bikes to demonstrate the **(13)** **(ENJOY)** that family members of all ages can get from group cycling. Basic cycling **(14)** **(SAFE)** was taught using conventional bikes. There were also some rather **(15)** **(USUAL)** bikes on display. One-wheelers, five-wheelers and even one which could carry up to six **(16)** **(RIDE)**, were used for fun.

The club also gave information on how cycling can help to reduce **(17)** **(ENVIRONMENT)** damage. They also provided **(18)** **(SUGGEST)** as to how people could substitute the bike for the car for daily journeys. The overall message was that cycling is great family fun and an excellent alternative to driving. By the end of the day over a hundred people had signed up for membership.

Appendix 2: Open-Ended Questionnaire

ANKET FORMU

Merhaba ben Mehmet ASLAN,

Van Yüzüncü Yıl üniversitesi Yabancı Diller Yüksekokulunda görev yapmaktayım. Harmanlanmış öğrenmenin yabancı dil olarak İngilizce öğrenen öğrencilerin kelime gelişimine katkısını belirlemek ve katılımcıların harmanlanmış öğrenme modeline karşı tutum ve düşüncelerini öğrenmek amacıyla bir çalışma yapıyorum. Bu araştırmada yabancı dil (İngilizce) hazırlık öğrencileriyle görüşme yapıyorum. Sorulara yazılı olarak vereceğiniz cevaplar sadece bu çalışma kapsamında kullanılacaktır ve kişisel bilgiler gizli tutulacaktır. Sorulara vereceğiniz cevaplar bu çalışmanın doğru değerlendirilmesi bakımından önemlidir.

Cinsiyetiniz: ____

Yaşınız: ____

1. Aldığınız harmanlanmış eğitimin yabancı dil kelime öğrenimine ne tür katkıları oldu?

2. Mobil cihaz ve uygulamaların yabancı dil kelime öğrenimindeki kullanışlılığı konusundaki görüşünüz nasıldır?

3. Geleneksel yöntemle kıyasladığınızda aldığınız harmanlanmış eğitimin olumlu yönleri ve avantajları sizce nelerdir? Gerekçeleriyle açıklayınız.

4. Harmanlanmış eğitimin (teknolojik cihaz kullanımı bakımından) uygulanabilirliği konusundaki görüşünüz nedir?

5. Geleneksel yöntem ile bu ders kapsamında kullanılan harmanlanmış ortamda ders uygulamasını karşılaştırdığınızda hangi yöntemi tercih edersiniz? Bunun gerekçeleri nelerdir?

Appendix 3: Pictures from the Study

**Mehmet Aslan**
16 May

14th Week
Dear students, this is the last week of our study. I thank to all of you for your kind attendance to this study. It was a pleasure for me. This week you are supposed to share the link of your video that you shared on Youtube. Please write the URL of your video under this announcement as comments.

 20 sınıf yorumu

**Seyma Celebiler** 16 May

<https://youtube.com/channel/UCJyflbceZODicJDHGdW2GV0>

**Zeynep Kavak** 16 May

https://youtube.com/watch?v=0b5Yz_zZhhc

**R meysa Manto** 18 May

<https://youtu.be/dYF5IMFgC8Y>

**Vedat  ift i** 19 May

<https://youtu.be/4-1mHAK6vE4>

**Saadet Ay** 20 May

<https://youtu.be/PkB7Z0qRZqI>

**Nurcan Siyahko ** 20 May

https://youtu.be/ZIzmUMO_06Q

**Semanur Buran** 20 May

<https://youtu.be/n8bAm-3uFcM>

**Esma El** 20 May

<https://youtu.be/jbKY5CpAn4g>

**G zlem Erg n** 20 May

<https://youtu.be/PfdcMj3cs5o>

**H r r Erg n** 21 May

<https://youtu.be/imrYTVgSXR8>

THE OUTDATED PROBLEM OF THE AGE

Violence, which we encounter in almost every aspect of our lives, deeply affects the entire society, but one of the most at risk is women. All kinds of violence which made to women is a crime and social problem. Violence negatively affects women's health and lives. Violence against women is not just physical. Women can be exposed to in terms of the restriction of their emotional, social relation and economic as well as physically. We can not completely eliminate violence but we can reduce it. In my opinion, this topic should be included in school books. Help groups should be increased to victim women. Severe punishment should be given for violence. Violence is a crime, do not be silent.

6 sınıf yorumu

-  **Esmâ Er** 1 May
Your topic is so important for our world especially for our country. They do not care about us enough but I believe in we will change it. I think you have some mistakes like one of the most at risk is wrong you have to use one of the most risk is violence against women. And also you can say violence which made towards women. I am not sure but I think it should be like that.
-  **Nursel Alkan** 1 May
I agree with you and we can raise awareness about this topic . Also, thanks for your comment. 😊👍
-  **Esmâ Er** 1 May
You are welcome 😊
-  **Saadet Ay** 6 May
Hi Nursel, violence is the worst thing in our lives and I agree with all the things you mentioned in the paragraph but there is a mistake. In paragraph it says "help groups" but instead of it you could say "charities". As Esmâ said I'm not sure but as far as I know charities sounds more logical ☐
-  **Nursel Alkan** 6 May
Hi Saadet, actually I thought so too but I wasn't sure. Thanks for your comment. 😊
-  **Saadet Ay** 6 May
You are welcome ☐

CHILD LABOUR

Child labour is a rising crime which forces small children to work in some hard jobs, such as industry, illegal business, factories, household etc. Child labour affects the development and growth of children and that affects can be phycially, socially and mentally. Unfortunately this is not just an issue for our country but also other country. It is national issue which is growing rapidly. Child labour takes away the basic right of education, health and indepence of children, the causes of child labour is poverty, facilities, economic situation of family, violating etc. In order to eliminate child labour we should raise our voice and hand against injustice. Every person who employes a child should be punished, and everyone should be informed about this situation.

3 sınıf yorumu

-  **Nursel Alkan** 5 May
This topic is very important. You have some mistakes for example, that affects can be.. affect is a verb not noun, so you can say that effect.
-  **Semanur Buran** 5 May
I realized that. Thank you for correcting my mistake.
-  **Nursel Alkan** 6 May
You are welcome 😊

Vocabulary Class
Preperatory Class



AkışSınıf ÇalışmalarıKişilerNotlar

Vocabulary Class
Preperatory Class

Özelleştir

Sınıf kodu:
baqap2g

Sınıfınıza duyuru yapın

Teslim tarihi yaklaşan ödevler
Teslim tarihi yaklaşan ödev/soru yok
Tümünü görüntüle

Mehmet Aslan
20 Nis (Düzenlenme: 20 Nis)

10th Week

Dear students, you are supposed to use highlighted words in a sentence and share it here. Additionally, you can make interpretations or corrections to your friends' sentences. The answers of the questions will be discussed in class.

10th week.pdf
PDF

Mehmet Aslan
12 Nis (Düzenlenme: 20 Nis)

9th Week

Dear students, you are supposed to share the definition of the highlighted words as well as their synonyms. Also, if you can find, share an appropriate picture. The answers of the questions will be discussed in class.

9th Week.pdf
PDF

20 sınıf yorumu

Serhat Karakuş 19 Nis

Furnishing: NOUN
[ˈfʊr-nɪʃ-ɪŋ || ˈfɜːnɪʃɪŋ /ˈfɜːn-]
supplying, providing, equipping; furniture
SYNONYM : trappings

Sınıf yorumu ekle...

120

Vocabulary Class
Preperatory Class



Akış

Sınıf Çalışmaları

Kişiler

Notlar

 **Esmâ Er** 12 Nis
square noun
/'skwer/
an open , typically four-sided, area surrounded by buildings in a Village, town ,or city.
syn:concourse
<https://images.app.goo.gl/6dA4m7UDcmyWfvux5>

 **Saadet Ay** 12 Nis
Prominent adj.
/'prominənt/
important , famous, or noticeable; easy to see

 **Rümeysa Manto** 12 Nis
furnishings noun
/'fɜːnɪʃɪŋz/
/'fɜːrniʃɪŋz/

[plural]
the furniture, carpets, curtains, etc. in a room or house

<https://unsplash.com/s/photos/furnishing>

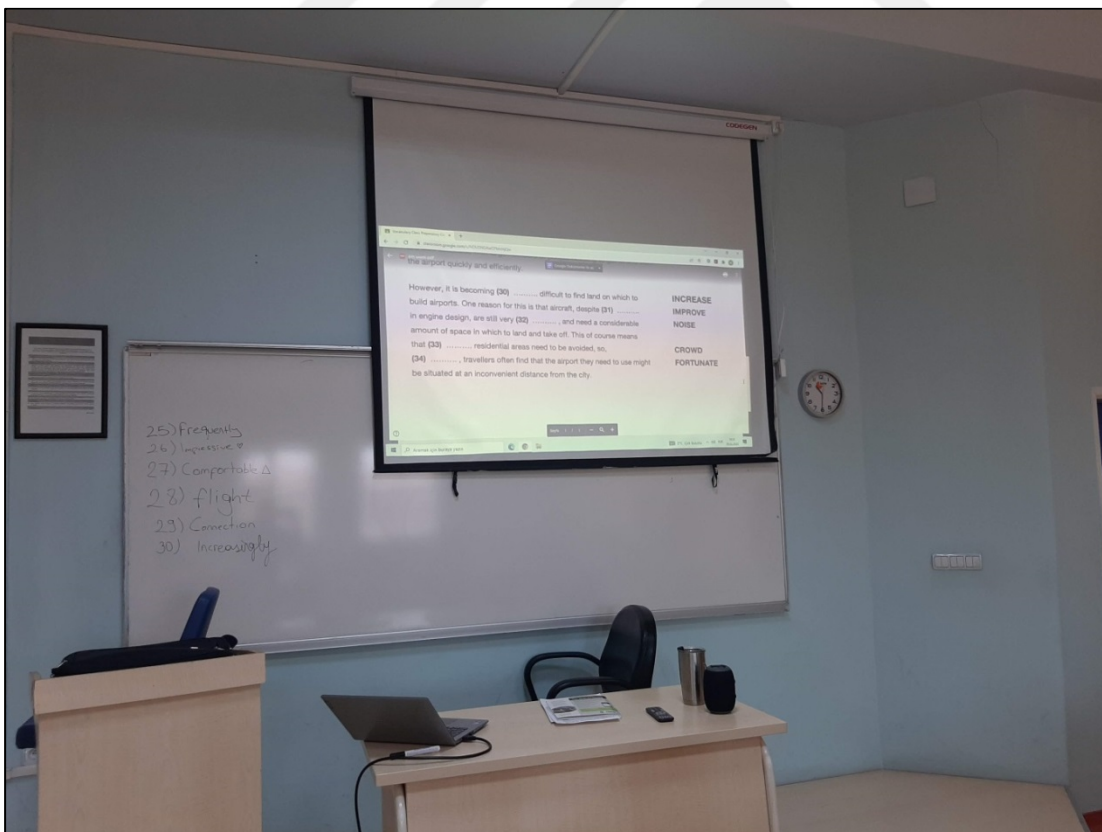
 **Uğur Eren Acar** 12 Nis
shabbiness noun
/'ʃæbɪnəs/

[uncountable] the state of being in poor condition or badly dressed because things
have been used or worn a lot.
syn: scruffiness

<https://images.app.goo.gl/2EPS1XmzHVTpbKzM8>

 **Seyma Celebiler** 12 Nis
Permanent adj.
/'pɜː.mə.nənt/
lasting for a long time or for all time in the future; existing all the time.





8:55

Ignore	(n) the attractive and exciting quality that makes a person, a job or a place seem special, often because of wealth or status
Incredibly	(n) a plan or preparation that you make so that something can happen
Arrangement	(v) to keep away from somebody/something; to try not to do something
Reach	(adv) unbelievably
Glamour	(v) to arrange for yourself or for somebody else to officially join a course, school, etc.
Magnificent	(v) to arrive at the place that you have been travelling to
Avoid	(v) to pay no attention to something
enroll	(adj) extremely attractive and impressive; deserving praise

 [Submit Answers](#)  

Matching words with definitions [Share](#)

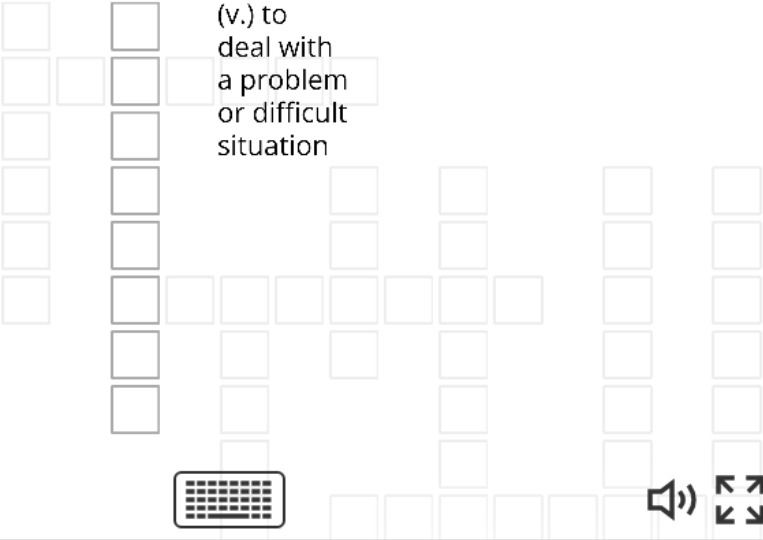
by Mehmetaslanvan  Like  Edit Content [More](#) 

9:29

Type the letters ✓ 0

9

(v.) to deal with a problem or difficult situation



Puzzle [Share](#)

by Mehmetaslanvan  Like  Edit Content [More](#) 

Vocabulary Class
Preparatory Class

Akış
Sınıf Çalışmaları
Kişiler
Notlar

Sınıf yorumu ekle...

Mehmet Aslan
13 Mar (Düzenlenme: 13 Mar)

Dear students, do this vocabulary quiz which is about word forms and help you differentiate between type of words.

Vocabulary test - ...
https://wordwall.net...

Sınıf yorumu ekle...

Mehmet Aslan
8 Mar (Düzenlenme: 8 Mar)

4th week activity

Dear students, read the passage and choose the correct options that fit in the blanks. The answers will be discussed in the class.

4th Week 1.pdf
PDF

0:02 ✓ 0

*The market sold a bewildering
..... of cheeses.*

A
(v.) vary

B
(adj.) various

C
(n.) variety

D
(n.) variation

1 of 20

Vocabulary test

by Mehmetaslanvan

Share

Like Edit Content More

Example:

0

M E E T I N G

A new supermarket for the town

At a public (0) held recently, residents of the town of Oxwell met local politicians and shop owners to discuss plans to build a large supermarket in the town. A wide (25) of opinions was expressed, some in favour and some against the project. A (26) of the supermarket group, who was present at the meeting, stated that the supermarket would benefit the (27) of Oxwell as it would give people more (28) when shopping. He also pointed out that it would lead to a (29) in the number of jobs available in the town, which has a high rate of (30) Although there was general (31) on the need for new jobs, some of those present claimed that the presence of the proposed new supermarket would actually lead to the (32) of jobs. They pointed out that small shops would be forced to close as they would be (33) to compete with supermarket prices. The final (34) on whether or not to build the supermarket will be made next month.

MEET

VARY

DIRECT

INHABIT

CHOOSE

GROW

EMPLOY

AGREE

LOSE

ABLE

DECIDE

7:56

✓ 0

Such measures are likely
to in decreased
motivation of the workforce.

A

lead

B

result

C

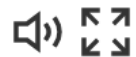
mean

D

cause



◀ 1 / 9 ▶



Vocabulary test

Mehmetaslanvan tarafından

Paylaş

♥ Beğen

✎ İçeriği Düzenle

Daha fazla ▾



Evrak Tarih ve Sayısı: 31.05.2022-51974



T.C.
İSTANBUL AYDIN ÜNİVERSİTESİ REKTÖRLÜĞÜ
Lisansüstü Eğitim Enstitüsü Müdürlüğü

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Konu : Etik Onayı Hk.

31.05.2022

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Tez çalışmanızda kullanmak üzere yapmayı talep ettiğiniz anketiniz İstanbul Aydın Üniversitesi Etik Komisyonu'nun 26.05.2022 tarihli ve 2022/09 sayılı kararıyla uygun bulunmuştur. Bilgilerinize rica ederim.

Dr.Öğr.Üyesi Alper FİDAN
Müdür Yardımcısı

Bu belge, güvenli elektronik imza ile imzalanmıştır.

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Articles:

ASLAN, M., & TANRITANIR, B. C. (2016). "Kahlil Gibran and His Role in the Development of Arab American Literature. **Sosyal Bilimler Enstitüsü Dergisi**, 33, 113-123.

ASLAN, M. & TÜTÜNİŞ, B. (2022). Vocabulary Development with Mobile Devices and Applications. **Pearson Journal**, 7(20), 18–30.

Presentations:

ASLAN, M. (2022). Vocabulary Teaching with Internet-Based Applications. Uluslararası Edebiyat, Kültür ve Dil Sempozyumu (pp.456). Van, Turkey

ASLAN, M. (2022). Tpack As A Technology Integration Model. I. International Anglo-American Cultural and Literary Studies Symposium (pp.80). Mersin, Turkey.

TANRITANIR, B. C. & ASLAN, M. (2016). Gibran's Revolt to His Country's Indolence for Independence. Uluslararası Akdeniz Medeniyetleri Sempozyumu (pp.315-324). Girne, Cyprus (Kkctc)

