MULTIMODAL MOBILE-ASSISTED LANGUAGE LEARNING CLASSROOM APPLICATIONS: A STUDY IN PRE-SERVICE TEACHER EDUCATION

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PhD DISSERTATION

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DEDICATION

To my mother and father,

who thought me to be a powerful woman and without whom I could never dream of achieving this career,

To my love,

the best husband in the world and whose precious support motivated me to pursue this career,

and

To my beloved twins, Melis and Burak,

who completed me with their presence, who make the woman I am, and whose endless love I always feel in my heart

APPROVAL OF JURY AND THE INSTITUTION

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ABSTRACT

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PhD Programme in English Language Teaching
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In the field of language education, mobile technologies enable ubiquitous and multimodal opportunities for learners to access, share, and construct knowledge. However, it has been observed that although integrating the recent mobile technologies into teaching is positively accepted by many EFL teachers, still they have a lack of guidance on how to implement them in teaching. Therefore, the current study is designed to develop and offer a training model for EFL pre-service teachers on multimodal mobile assisted language learning. Furthermore, this study aims to understand EFL pre-service teachers' views on integrating multimodal mobile technologies into teaching English by providing them opportunities for actual teaching experiences. A total of 16 fourth-grade pre-service teachers enrolled in the *Teaching Practice* course in the ELT Department in a state university in Turkey participated in this study. Designed as mixed method research, both quantitative and qualitative data were collected over 12 weeks. Participants were given training on Multimodal Mobile Assisted Language Learning (M-MALL) through eight weeks and were asked to implement M-MALL in their lessons with high school EFL learners at their practice schools. In order to understand their views on the training they received, they were asked to write a reflective diary after the completion of the training period. Furthermore, to investigate their views on M-MALL through their actual teaching experience, data-led reflective diaries were collected weekly from the participants who wrote reflections both for their own lessons and their peers' lessons with M-MALL integration. In order to identify the EFL pre-service teachers' perceptions towards mobile-learning MLPS scale was implemented at the beginning and the end of this process. Finally, to better understand participants' views on the whole process semi-structure interview was conducted in the end. The results of this study showed that participants found M-MALL training contributive to their teaching and rich in content. Similarly, they indicated that using M-MAL in the lessons was contributive to both EFL learners' learning and to EFL lessons. PSTs expressed that they experienced positive feelings during M-MALL integration and indicated some prerequisite conditions for M-MALL to be implemented successfully in the EFL lessons. Finally, they highlighted some problems they faced and offered some possible solutions. The participants' perception levels towards M-learning increased positively at the end of the study. In the light of these findings, certain implications on EFL teacher education on M-MALL integration and precautions to eliminate deficiencies in MALL were shared.

Keywords: Multimodal Mobile Assisted Language Learning, English Language Teaching, Pre-service Teacher Education.

ÖZET

ÇOKMODLU MOBIL DESTEKLI DIL EĞITIMI SINIF UYGULAMALARI: ÖĞRETMEN ADAYI EĞITIMI ÜZERINE BIR ÇALIŞMA

Gülin ZEYBEK

Yabancı Diller Eğitimi Anabilim Dalı
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Mobil teknolojiler, dil eğitimi alanında öğrencilerin bilgiye erişmesi, paylaşması ve inşa etmesi için her yerde bulunan ve çok modlu fırsatlar sağlar. Bununla birlikte, pek çok İngilizce öğretmeni son mobil teknolojilerin öğretime entegre edilmesini olumlu karşılamasına rağmen, bu teknolojilerin dil öğretiminde nasıl uygulanacağı konusunda bir rehberliğin eksikliği göze çarpmaktadır. Mevcut çalışmada, İngilizce öğretmen adayları için çokmodlu mobil destekli dil öğrenimi konusunda bir eğitim modeli tasarlanmıştır. Ayrıca, bu çalışma İngilizce öğretmen adaylarının çokmodlu mobil teknolojileri İngilizce öğretiminde kullanımı hakkındaki görüşlerini onlara gerçek öğretim deneyimleri sunarak anlamayı amaçlamaktadır. Araştırmaya İngilizce Öğretmenliği Bölümünde *Öğretmenlik Uygulaması* dersine kayıtlı toplam 16 dördüncü sınıf öğretmen adayı katılmıştır. Karma yöntem araştırması olarak tasarlanan bu çalışmada, hem nicel hem de nitel veriler 12 haftalık bir süreç boyunca toplanmıştır. Katılımcılara sekiz hafta boyunca Çokmodlu Mobil Destekli Dil Öğrenimi (M-MALL) eğitimi verilmiş ve uygulama okullarında lise öğrencileriyle birlikte işledikleri derslerinde M-MALL kullanmaları istenmiştir. Aldıkları eğitimle ilgili görüşlerini anlamak için eğitim döneminin tamamlanmasının ardından yansıtıcı bir günlük yazmaları istenmiştir. Ayrıca, M-MALL hakkındaki görüşlerini gerçek öğretim deneyimleri aracılığıyla araştırmak için, hem kendi dersleri hem de arkadaşlarının dersleri için katılımcılardan haftalık olarak yansıtıcı günlük yazmaları istenmiştir. Katılımcıların mobil öğrenmeye yönelik algılarını karşılaştırmak için MLPS ölçeği bu sürecin başında ve sonunda uygulanmıştır. Son olarak, katılımcıların tüm süreç hakkındaki görüşlerini daha iyi anlamak için sonunda yarı yapılandırılmış bir görüşme yapılmıştır. Bu çalışmanın sonucunda, katılımcılar M-MALL eğitiminin öğretmenlik becerilerine katkı sağladığını ve içerik açısından zengin olduğunu belirtmişlerdir. Benzer şekilde, derslerde M-MALL kullanmanın hem öğrencilerinin İngilizce öğrenme süreçlerine hem de İngilizce derslerine katkı sağladığını söylemişlerdir. M-MALL entegrasyonu sırasında olumlu duygular beslediklerini belirten katılımcılar, M-MALL'un İngilizce derslerinde başarılı bir şekilde kullanılması için bazı ön koşulların olduğunu da altını çizmişlerdir. Son olarak, karşılaştıkları bazı sorunları vurgulayan öğretmen adayları bu problemler için olası çözümler de önermişlerdir. Araştırmanın sonunda katılımcıların mobil öğrenmeye yönelik algı düzeylerinin olumlu yönde arttığı bulunmuştur. Bu bulgular ışığında, M-MALL entegrasyonunda EFL öğretmen eğitimine ilişkin bazı öneriler ve eksiklikleri gidermeye yönelik önlemler paylaşılmıştır.

Anahtar Kelimeler: Çokmodlu Mobil Destekli Dil Öğrenimi, İngilizce Öğretimi, Öğretmen Eğitimi.

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23/10/2020

STATEMENT OF COMPLIANCE WITH ETHICAL PRINCIPLES AND RULES

I hereby truthfully declare that this dissertation is an original work prepared by me; that I have behaved in accordance with the scientific ethical principles and rules throughout the stages of preparation, data collection, analysis and presentation of my work; that I have cited the sources of all the data and information that could be obtained within the scope of this study, and included these sources in the references section; and that this study has been scanned for plagiarism with "scientific plagiarism detection program" used by Anadolu University, and that "it does not have any plagiarism" whatsoever. I also declare that, if a case contrary to my declaration is detected in my work at any time, I hereby express my consent to all the ethical and legal consequences that are involved.

Gülin ZEYBEK

TABLE OF CONTENTS

Page

Page

LIST OF TABLES

LIST OF FIGURES

Page

Page

LIST OF ABBREVIATIONS

CALL	: Computer Assisted Language Learning
EFL	: English as a Foreign Language
ELT	: English Language Teaching
M-Learning	: Mobile Learning
MALL	: Mobile Assisted Language Learning
M-MALL	: Multimodal Mobile Assisted Language Learning
PSTs	: Pre-service teachers
TELL	: Technology-Enhanced Language Learning
UTAUT	: The Unified Theory of Acceptance and Use of Technology
WELL	: Web-Enhanced Language Learning

CHAPTER 1

"Technology is just a tool. In terms of getting the kids working together and motivating them, the teacher is the most important" (Bill Gates, 1997).

1. INTRODUCTION

The way people communicate, plan their lives, run their business within their community and worldwide have changed dramatically with the integration of mobile technologies into our lives. New terminologies have become part of our daily lives such as *Google it* to find an answer to a question, *Tweet it* to share news, *Instagram* a picture of an event or *nav* the way in order to reach a destination. Thanks to their ubiquitous features, it has become easier to find information anytime and anyplace with mobile devices, and they reflect truly the structure of the present-day's society, in which people are continuously moving, sharing, and interacting worldwide.

Following the increase in mobile device ownership among people, the use of mobile devices such as laptops, PDAs, tablets, smartphones has increased dramatically in the past sixteen years in Turkey as the Turkish Statistical Institute (TSI) states on its website. The survey on Information and Communication Technology (ICT) Usage in Households and by Individuals reveals that while the ratio of smartphone ownership was 53.7% in 2004, the ratio increased to 95.3% in 2020 along with the internet usage which went up from 26.6% in 2004 to 91.8% in 2020 (TSI, 2020). These booms in technology not only has affected the lives of individuals but also influenced their learning environments as well. In educational settings, a great number of institutions have started to embrace the recent digital technologies and adopted them as the new learning medium (Montebello, 2020). Especially with the latest problems such as pandemics, natural disasters and big fires, the importance of integrating technology into education has increased dramatically. These mobile technologies, available for many people today, have provided continuous learning during the days in quarantine and enabled learners and teachers to carry out their lessons outside the classroom context without interruption.

In general, mobile technologies are widely used by people in their daily lives for many reasons such as listening to music, communicating with friends and family,

watching videos, using social media, and gaming. Similarly, in educational settings, these technologies also made it available for learners to search for information, practice knowledge, download course materials, benefit from online learning environments, and experience real-life learning such as visiting online museums or wandering around the streets of cities and countries. Additionally, schools can provide databases for course materials, online assignments, and exams and monitor student learning thanks to mobile technologies.

Contemporary learners are more familiar with mobile devices compared to many teachers in their schools as these learners are used to sharing, exchanging information, interacting, and getting immediate feedback in the digital platforms (Altamimi, 2017). Although learners are greatly motivated to use their mobiles in their daily lives, most of the schools in Turkey forbid their use during the classes. However, instead of restricting or prohibiting the use of mobile devices, research indicated that students want these tools to be used as supplementary materials during their lessons (Denizalp & Özdamlı, 2019; Şahin & Yılmaz, 2020). Since forbidding something makes it more attractive, it is impossible to expect students to leave their mobile devices at home. Therefore, instead of restricting the use of devices, guidance on allowing only educational use during lessons can be ensured. Their effective use can make these devices perfect supplementary materials for foreign language learning. Furthermore, due to the unexpected recent challenges that the world has been going through (i.e. pandemics, natural disasters) the significance of the effective use of mobile tools has increased dramatically as the education system has shifted from traditional face-to-face learning to online learning worldwide. Especially in Turkey, studies have started to be conducted at the ministerial level to develop new alternatives to traditional teaching and strategies for online education. Therefore, the knowledge of how to use mobile technologies for teachers has become more important than ever.

Similar to EFL learners, foreign language teachers also agree upon the inevitable integration of such technologies into their language teaching practices (Batane & Ngwako, 2017; Koral Gümüşoğlu & Akay, 2017; Osakwe, Nomusa & Jere, 2017). However, how proficient language teachers are in using mobile technologies and how ready they are to use them are important issues to be considered. Thus, it is important to prepare foreign language teachers to have the necessary skills for creating technology-

enhanced environments in their lessons so that they can provide their students with qualified educational environments. Educational strategies of the last century have been helpless and ineffective in contingencies around the world, and the way to overcome this is to integrate training on mobile technologies into teacher education.

Considering the shift from traditional to more flexible and student-centered digital learning environments (Caner, Yüksel & Keçik, 2013), it has become increasingly important to understand educational technology in language learning and its sub-categories such as computer, web, and mobile-assisted technology integration.

1.1. Technology in The Language Classroom

The ubiquitous nature of technology in our lives has brought forward new expectations and opportunities for both teachers and students. Howbeit, the use of technology in foreign language teaching has been rather limited (Kessler & Hubbard, 2017). Although language teachers and students are the users of the latest technological advancements, the integration process is not automatic since simply transferring personal and social practices into the classroom cannot be presumed (Winke & Goertler, 2008). Even if technological tools are used, using it in education requires a different consciousness and competence (Al-Jarrah, Talafhah & Al-Jarrah, 2019). It is also crucial to make a distinction between using technology not for technology's sake but the sake of learning (Koehler & Mishra, 2008). Hence, there is a need for equipping foreign language teachers with the necessary knowledge and skills of selecting and adopting new technological advancements into classroom practices (Kessler & Hubbard, 2017).

In foreign language teaching, the evolution of technological tools from projectors and televisions to mobile devices and Web 2.0 tools has influenced language learning theories. Over the years, many terms have been used to indicate the use of technology in foreign language learning starting from Technology-Enhanced Language Learning (TELL), Computer-Assisted Language Learning (CALL), Mobile-Assisted Language Learning (MALL) to Web-Enhanced Language Learning (WELL). While all of these terms predicate the same category, each of them represents a different sub-category by emphasizing a particular medium (Lenci, 2020) and all of them unite under an umbrella term: Educational Technology. The figure representing the relationship of these terms is presented in Figure 1.1 below.

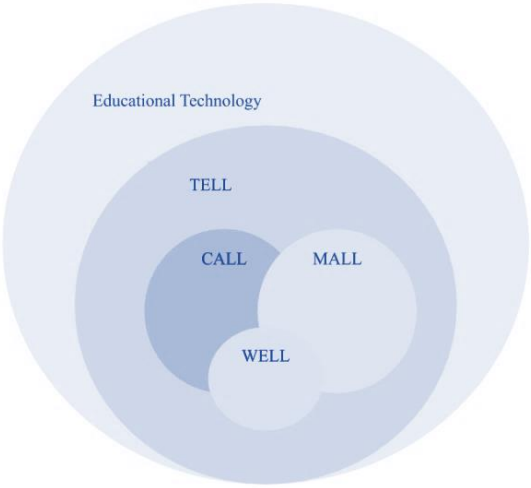


Figure 1. 1. *The relationships between the terms in educational technology (Lenci, 2020, p. 12)*

TELL can be seen as embracing all kinds of technologies used in language teaching. While CALL indicates the use of computer technology in language teaching, MALL refers to teaching a language supported by mobile technologies. Being as the most common categories of educational technology in language learning, CALL and MALL are correlated the latter being seen as a shift from the former one due to emerging use of mobile technologies such as smartphones, tablets and so on.

Globalization in the 21st century has enhanced communication and collaboration among people having various social and cultural backgrounds (Mansilla & Jackson, 2012). Thus, language learning has become an important factor in order to pursue social, educational and work goals along with personal needs and interests, and the latest mobile technologies make language learning more applicable and appealing (Kukulska-Hulme, Lee & Norris, 2017). Mobile technologies enable language learners personalize their language learning processes according to their own preferences and needs, and support this learning as an ongoing process in various settings (Ng, Lui & Wong, 2015). Thanks to its ubiquitous nature, mobile language learning provides students the opportunities to continue learning beyond the classroom walls which is unexpected and unplanned requiring a new pedagogy and necessitates a revision in foreign language teaching (Kukulska-Hulme et al., 2017).

Several publications have discussed how mobile language teaching can be done (Kukulska-Hulme & Traxler, 2005; Kukulska-Hulme et al., 2017; Pegrum, 2014; Traxler & Wishart, 2011). Pegrum (2014) emphasizes the importance of teacher

education on mobile language learning by highlighting the benefits for knowledge construction and collaboration. As Kukulska-Hulme et al., (2017, p. 220) state, "professionally trained classroom educators will have strong existing skills and want to hone and build on these to reflect technological shifts in learners' communication practices for the 21st century". Although there are various publications discussing mobile technology use in the classroom, there is very little advice and available training on enhancing language teachers' knowledge in integrating mobile technologies by using multiple modes of communication, in other words multimodality, with mobile and social technologies in various physical settings. The use of multiple modes requires integration of various channels such as audial, visual, textual and so on for meaning making, and combining all or some of these modes in language teaching can augment leaners' comprehension (Kress & van Leeuwen, 2001). By offering engagement with various modes at a single time, mobile technologies help EFL learners boost their comprehension and as a result engagement during language activities.

Integration of mobile devices into the learning process provides multimodality for learners in making meaning, which is an essential point in English Language Teaching (ELT henceforth). Multimodality enables learners to find more accessible and usable environments, since it allows adaptability to the environment considering the cognitive abilities and limitations of learners (Magal-Royo et al., 2011). In this sense, the nature of mobile devices provides optimum manifoldness of modes and this multimodality of mobile devices allows foreign language learners to use voice, stylus or keyboard interchangeably based on their needs for communication (Magal-Royo, Giménez-López, Pairy, García-Laborda & Gonzalez-del Rio, 2011). Although both teachers and learners benefit from the multimodality of mobile devices frequently in their daily routines such as watching a video to understand a recipe or looking at a navigator to figure out a location, their use for foreign language learning is rather limited and rarely investigated (Eisenlauer, 2014). Therefore, considering mobile technology integration in EFL learning and teaching within the multimodality that these tools offer is considered to be important in understanding the MALL processes and in constituting a teacher development model.

1.2. Statement of the Problem

Integrating technology into foreign language teaching can necessitate to take into individual differences and inequalities of both learners and teachers in the digital divide continuum. Lack of user knowledge or materials may have a big impact on the outcomes of technology integration and as well as learning. Therefore, understanding and acting according to the consequences of the digital divide, teachers can achieve successful integration processes of mobile technologies in their teaching.

The digital divide commonly refers to the inequalities in accessing and using new forms of Information and Communication Technologies (ICTs) (van Dijk, 2006; Scheerder, Deursen & van Dijk, 2017). It is important to consider these inequalities during the integration of these technologies in educational settings as the consequences of being on the favorable or on the unfavorable side can affect the outcomes of EFL teaching. Especially, the most recent extraordinary situations that the world has been facing such as pandemics, big fires, and natural disasters have uncovered the reality of the digital divide that many people could not reach information and education. Thus, it has become even more important for EFL teachers to be able to take these consequences such as not having the necessary technological equipment or lack of knowledge on the use of specific technologies into consideration in preparing their technology-based lessons (Köksal, 2004).

The term ‘digital divide’ has started to be used from the mid-1990s after the survey conducted by the National Telecommunications and Information Administration (NTIA) in the USA to define the imparity between the households having and not having access to telephones, computers, and the Internet (Pierce, 2019). According to Pierce (2019), several triggers initiate the concept of ‘digital divide’ such as a gradual increase in the use of ICTs in schools from primary to higher education and the location of people; i.e. the countries’ topography or economy may have affected the Internet access and use. Furthermore, age, education, household income, race, and (dis)ability have been underlined as variables generally used in the discussions of the digital divide (Pierce, 2019).

The gap in the access and use of ICTs has been mostly observed in terms of the Internet (Castells, 2002). Especially after the increase in personal computer ownership and internet access, the digital divide became even more popular (Eastin, Cicchirillo &

Mabry, 2015). The people who had access to the Internet were considered as being on the favorable side of the divide (Bucy & Newhagen, 2004), and this distinction is conceived as a first-level digital divide. On the other hand, having access to the Internet as connected to being on the advantageous side of the digital divide has started to be questioned, since in most of the Western countries people, who had no problems with the internet connection and have easy access, could not demonstrate the necessary skills (Scheerder et al., 2017). Therefore, a shift from digital divide to skills divide was observed, which was highlighted as the second-level digital divide (Hargittai, 2002), highlighting the need for necessary skills to use the Internet, namely 'technical competence' (Mossberger, Tolbert & Stansbury, 2003; van Deursen, Helsper & Eynon 2016). Most recently, researchers upgraded this divide to a third-level digital divide together with a requirement on having beneficial outcomes of the internet use (Scheerder, et al., 2017; Wei, Teo, Chan & Tan, 2011). The third level-digital divide is present when these technical competencies do not lead to beneficial outcomes. The inequality of outcomes occurs due to the 'user types' asserted by Brandtzæg, Heim and Karahasanovic (2011), meaning that factors such as a person's attitude and motivation towards technology, the use and the ability of meaning-making are all affective in determining this new type of divide. In their study, these researchers identified a typology of Internet users with an investigation on 12,666 people living in Europe between the ages of 16 to 74. They (Brandtzæg et al., 2011) characterized five types of users; non-users, sporadic, entertainmnet, instrumental, and advanced users. They concluded that the last two types of users (instrumental and advanced) will benefit better from the internet and have better outcomes such as achieving new skills. However, studies show that although these two types of users, which denote mostly the young population, are skilled at internet and technology use, the integration of the recent technologies into language learning by EFL teachers is rather limited due to lack of necessary knowledge and skills (Aşık et al., 2019; Hsu, 2016; Lord & Lomicka, 2011; Lozano & Izquierdo, 2019; Sert & Li, 2017; Yeh, 2018).

The availability and possession of the necessary equipment also play a significant role in determining the position of a person in the digital divide. According to van Deursen and van Dijk (2019), this equipment is defined as devices that are used for accessing the Internet such as desktop, laptops, tablets, smartphones, and smart TVs,

and the additive devices to support this access such as printers, scanners, hard drives. The inequality in 'material access' is discussed under three main issues "(1) differences in device opportunities; (2) differences in the diversity of devices and peripherals; and (3) differences in the maintenance costs of devices and peripherals." (van Deursen & van Dijk, 2019, p. 256). In terms of 'device opportunities', people who use a combination of both mobile devices (smartphones, tablets, etc.) and desktops and laptops achieve more beneficial outcomes of Internet use, because using both types of devices offer a wide range of potential opportunities. Using a wide range of peripheral equipment leads to a better experience with the internet since this diversity of devices such as additional screens, online print materials, and additional hard drives offer a more satisfying experience with the internet. Lastly, the maintenance cost of the devices may exceed their actual costs since there are additional expenses such as software licensing and repair costs (van Deursen & van Dijk, 2019). Thus, being able to meet all these criteria for material access can be considered as helpful in laying solid foundations of technology use in schools.

In order to be on the favorable side of the digital divide, in addition to materials access, it is required to have the necessary technical competencies as well. Technical competencies are classified as operational skills, information navigation skills, social skills, and creative skills (van Deursen et al., 2016). The researchers defined operational skills as having the most basic skills to use the Internet. Information navigation skills were defined as being able to search, find, choose, and evaluate internet sources. Social skills include the ability to use communication and interactions to comprehend and exchange meaning while acquiring social capital. Lastly, creative skills were required to create various quality content to share with others on the Internet (van Deursen et al., 2016). Hence, it is expected from both EFL learners and teachers to have these competencies when using technology in the learning/teaching process.

Along with the necessary competencies and access to materials, Scheerder et al. (2017), in their comprehensive study of reviewing 948 articles on the digital divide, identified the determinants of the digital divide in seven main categories. According to these researchers, the determinants of the digital divide fall into the categories of socio-demographics, economy, social, cultural, personal, material, and motivational. The pioneers of the digital divide concept believe that the differences in this divide do not

mainly result from the age of users and believed that it is not the so-called digital generation that possesses the highest level of internet skills but other factors that are stated above determine the position of people in the digital divide (Harigatti, 2002; van Deursen & van Dijk, 2019). Contrary to these views on age, generational differences are effective in general technology use (Olson, O'Brien, Rogers & Charness, 2011), in the internet use (Van Volkom, Stapley & Amaturo, 2014), in cell phone use (Ling, 2010), in social media use (Van Volkom et al., 2014), and on emotions of users (Cotton, Ford, Ford & Hale, 2012). The term generation is defined as the group of individuals living in the same era and of the same age (Çapar & Keçik, 2016). As Prensky (2001) defines the young generation as 'digital natives' and the older generations as 'digital immigrants', the capabilities and motivations of these generations in the digital world can determine their positions in the divide. Thus, the generational differences among EFL teachers and their learners need to be considered in integrating the most recent technologies into the teaching-learning processes.

In educational settings, where teachers plan, design, and implement technology-based lessons, understanding these determinants are important for coping with the inequalities that result from economical situations, cultural tendencies or personal choices. Ghobadi and Ghobadi (2015), based on their findings, indicated that to be on the favorable side of the digital divide, promoting motivation among individuals to use ICTs and enhancing their knowledge on recent technologies are important. Furthermore, they stated that in the absence of motivation, individuals may develop negative attitudes towards technology and give up using the Internet and enhancing their skills on ICTs. Therefore, motivation is seen as an important factor to trigger people to use and develop skills in technology use (Ghobadi & Ghobadi, 2015). These motivation-related factors may result from complex relationships of events at all three levels of the digital divide like having computers and the Internet at home, the use of ICTs by parents, having positive experiences with ICTs, and schools' standpoint in using ICTs (Adhikari, Mathrani & Scogings, 2016). Wei et al. (2011) also highlighted the significance of the attitude and motivation of students for providing equity in their learning outcomes.

The limitations that teachers and students face while accessing and using ICTs and the Internet were stated as the main factors affecting the digital divide. Izquierdo, De la Cruz, Aquino, Sandoval Caraveo and García (2017, p. 40) asserted that several

issues hinder the access and use of the resources available at schools such as "teachers' lack of competence to optimize the use of limited resources, limited access to facilities, technical support, time investment, and training." In their study, Lozano and Izquierdo (2019, p. 55) restructured the constraints of the digital divide in terms of educational contexts as:

> • *"Lack of elementary digital experience ("mental access"): Not having the necessary knowledge to understand and use ICTs in the classroom.*
> • *No possession of computers and network connections ("material access"): Having little or no access to necessary hardware and software to integrate in the language classroom.*
> • *Lack of digital skills ("skills access"): Having lack of necessary skills to use the hardware and software they have.*
> • *Lack of significant usage opportunities ("usage access"): The activities or tasks may not lead to favorable outcomes such as providing language input due to teacher preparation and lesson implementation"*

Taking all these issues in mind, it is necessary to eliminate all the inequalities and disadvantages that arose from the digital divide while enhancing lessons with the latest technologies. The likelihood of having successful technology-assisted language learning will increase in this way.

Another problem is that technology-based courses offered in ELT programs in Turkey are mostly selective and given only by the personally interested or proficient lecturers. The existence of these courses vary from one university to other and most universities do not have a content-specific technology course and all universities offer a compulsory course only for basic computer skills. As Aydın (2013), Başal (2015) and Kuru Gönen (2019) state English teachers have been graduating from their departments without having equipped with the necessary field-specific knowledge in technological practices in English language teaching in Turkey.

A new curriculum for English language teacher training programs has been announced in 2018 and has started to be implemented since 2018-2019 academic year in all universities having English Language Teaching (ELT) Bachelor's Degree programs in Turkey. It is currently offering two courses related to technology. The first one is "Information Technologies". This aims of this course are to cover:

> *"information technologies and computational thinking; problem-solving concepts and approaches; algorithm and flow charts; computer systems; basic concepts of software and hardware; operating of computer systems; current operating systems; file management;*

utilities (third batch software); word processing programs; calculation / table / graphical programs; presentation programs; desktop publishing; database management systems; Web designing; use of internet in education; communication and collaboration technologies; secure internet use; information ethics and copyrights; effects of internet and computer on children / young people" (YÖK, 2018).

The second course is "Open and Distance learning". This is a selective course on professional knowledge offered by Education Department to the whole faculty. This course aims to cover:

"basic concepts and philosophy of open and distance learning; the development of distance education in the world; development of distance education in Turkey; learner and mentor roles in distance education; distance education used technologies; management of open and distance education; classroom management and its components in open and distance learning; open educational resources and trends in the world; mass open online courses; personalized learning environments; outdoor and remote educational problems and their solutions; open and distance education applications in teacher training; developing individual teaching materials in open and distance education and student support services; identifying teaching strategies for different learning situations; research in distance education and evaluation" (YÖK, 2018).

The contents of both courses offered in the new curriculum in English language teacher training programs in Turkey reveal that there is no special training on technology integration for English language teaching in pre-service teacher education. In other words, Pre-Service Teachers (PSTs henceforth) do not receive any guidance on deciding how, where and when to integrate technology when designing or transforming foreign language activities. The studies conducted on language teacher education on technology integration highlighted scarcity and significance of such courses in the English language teacher training programs and suggested to train pre-service English teachers on how to use technology in language teaching (Aydın, 2013; Başal, 2015; Gülbahar, 2008).

Studies in the Turkish context show that, both PSTs and in-service teachers are behind the desired levels in terms of technology integration (Akbulut, Odabaşı & Kuzu, 2011; Yılmaz, 2007). Technological illiteracy and poor knowledge on the use of instructional technologies such as whiteboards and mobile devices like tablets and smartphones in teaching are some of the drawbacks (Tezci, 2011; Yavuz-Konokman, Yanpar-Yelken & Sancar-Tokma, 2013). Especially language teachers were found to be

poor at using recent mobile technologies that enable them to create language teaching contents (Özel & Arıkan, 2015; Şahin Kızıl, 2017).

Many studies concluded that teachers need guidance in the selection of mobile tools (Duman, Orhon & Gedik, 2015) and teachers do not have enough knowledge on how to support their students with these mobile tools and how to use them in various types of classroom environments (Hockly, 2013). Warschauer and Meskill (2000) remarked that "the key to successful use of technology in language teaching lies not in hardware or software but in "humanware"; therefore, it all boils down to "our human capacity as teachers to plan, design and implement effective educational activity" (p. 307). Additionally, as stated earlier, multimodality in MALL applications represents a somewhat understudied area (Duman, et al., 2015; Einsenlauer, 2014). Teachers can benefit less from the literature since it provides more guidance for CALL compared to mobile technologies (Poole et al., 2011). Furthermore, it is also important to guide EFL PSTs and teachers in designing lessons by practically using multimodal mobile tools and reaching EFL learners trough these tools especially in worldwide extraordinary situations such as pandemics or natural disasters which can cause sudden changes and interruptions in education (Atmojo & Nugroho, 2020). Thus, training ELT PSTs on the integration of mobile learning has become highly important and to the researcher's knowledge no study in the Turkish context focused on the experience of multimodal mobile application use in English language classrooms of ELT PSTs after a training program offered to them on mobile technology integration.

1.3. Aim of the Study

The underlying aim of this mixed method study, at its core, was to develop and offer a training program to pre-service EFL teachers on how to integrate M-MALL into their language classes. In this study, M-MALL refers to integration of multimodal mobile applications (including modes such as image, audio, text, animation, etc.) via smartphones. After this training, study aimed to provide teaching opportunities for EFL PSTs in order to apply what they have learnt in the training program to their teaching practices, and explore whether these applications work in terms of teaching and learning English.

Furthermore, the purpose of this study was to explore the experience of multimodal mobile application use in English language classrooms by fourth year EFL PSTs at a state university in Turkey in order to find out their perceptions on M-MALL integration. In this respect, the research questions are as follows:

1. Is there any change in EFL PSTs' perceptions towards mobile learning after their actual teaching experience with M-MALL?
2. What are the perceptions of EFL PSTs on M-MALL training they received?
3. What are the perceptions and reflections of EFL PSTs on integrating M-MALL into their actual teaching experiences during teaching practice?

1.4. Significance of the Study

This study offers an integrated approach for using technology, especially mobile technologies, into English language teaching. Historically, teacher education programs worldwide, and also in Turkey, have offered stand-alone technology courses to develop EFL PSTs' knowledge and skills (Ottenbreit-Leftwich, Glazewsk & Newby, 2010; Wang & Chen, 2006). As stated in the problem of the study section, ELT PSTs in Turkey, with the new curriculum, are only offered independent courses on technology use and the content of these courses do not include how to use these technologies specifically in teaching English. Therefore, with the teacher training model developed and implemented, this study offers a pedagogy for contextualized technology integration since technology integration should always be considered in relation to the content being taught (Koehler et al., 2007). This relationship between technology and content knowledge should be in balance in order to have successful results in technology integration (Angeli & Valanides, 2005). In other words, teachers need to know where, when and how to integrate technology as well as to be competent in foreign language teaching. As Kuure et al. (2016) states there is a need for a training for foreign language teachers to both understand the use of technology in the language classrooms and be trained on preparing their tasks with the recent technologies. That is, they should be skilled in detecting the need for integrating technology, plan this integration according to the content being taught, the needs of their students and possible technologies at hand and implement in the most appropriate way considering the aims and learning outcomes of the lesson. As Estes (2019, p. 1443) asserts "there is

a need for today's P-12 teachers to be technologically literate which includes knowing how to use technology tools, demonstrating pedagogy for technology-integrated instruction and having the self-efficacy for implementing pedagogy through integration of technology with instruction".

Likewise, the model offered for training Turkish EFL PSTs on the integration of M-MALL will help standardize the educational process of learning how to use mobile technologies in teaching English. PSTs may have different needs for understanding and using technological tools for teaching and their preferences may vary from one to another in using these mobile technologies (Oh & Reeves, 2014). However, as stated by Mulder (2016, p. 2207) "a technology integration model must take into account this range of ability and be able to flex to the needs of individuals". The steps suggested in the M-MALL training model offered in this study will help teacher educators to take these varieties among EFL pre-service teachers into consideration and teach their trainees within a standardized framework.

Furthermore, by showing the processes of M-MALL integration step by step, this training model will help Turkish EFL PSTs comprehend the integration process better and enhance their skills in using mobile technologies to teach English. Koh and Divaharan (2011) highlighted the importance of modelling in PSTs' acceptance of an introduced instructional technology and indicated that without seeing how it is integrated, PSTs will be less likely to understand how the given tool will be used in the classroom. Therefore, the techniques suggested in the training model upon modelling M-MALL in English language classroom will give insights for teacher educators how to handle a modelling process with PSTs concerning M-MALL mobile application integration. Hence, demonstrating and providing exercises for M-MALL during training process will provide a hands-on experience for PSTs and the perspectives that gained will help them transfer their knowledge to other recent technological tools that they may encounter in the future.

Along with the ever-changing nature of mobile technologies, the applications used with these mobile devices are not stable; and therefore, the aim of this training is not to promote a list of possible mobile applications but to teach how to use technology in a cost-effective and time-saving manner in the language classroom. This knowledge will help PSTs to adapt these recent technologies into the changing situations as well. That

is, while they can create contents with M-MALL for in-class activities, due to unavoidable situations such as pandemics or natural disasters they can also use these technologies to teach their students while they are away from school and provide input both inside and outside the school for them.

Moreover, as Kuru Gönen (2019) suggests, discussions among teacher educators and PSTs are quite important for improving good technology integration skills. The nature of the M-MALL training model will help other teacher educators to create an environment in which Turkish EFL PSTs can share their experiences in a rich formative way and help them enhance their integration skills through various activities. In this way, PSTs can clarify technology integration and identify the gaps in their understandings (Ertmer, Ottenbreit-Leftwich, Sadik, Sendurur & Sendurur, 2012).

Furthermore, the results of this study will highlight the importance of multimodality in meaning making. Also, it aims to understand the ways these multimodal mobile technologies help Turkish EFL learners' learning processes through the perceptions and reflections of PSTs. As Tan and Zammit (2018) indicate teachers equip their learners with the necessary metalanguage to deconstruct critically the connections between semiotic modes and try a range of nodes to represent ideas, when they are enhancing their students' multimodal literacies. That is, language teachers scaffold their learners so that they can "view multimodal texts critically to make multimodal representations effectively" (Lim, 2018, p. 5). This awareness on multimodal representations help students understand how these modes work together for meaning making. Therefore, by using multimodal mobile applications, EFL teachers encompass more than the four skills of language and include modes beyond the linguistic mode.

Besides, this study will also shed light into Turkish EFL PSTs' mobile learning perceptions on the effectiveness, possible affordances and constraints, and the classroom implications of M-MALL in a detailed way. Therefore, the findings of the current study can inform the literature about the strengths, weaknesses, problems that can be faced during integration and suggest solutions through the results from the real classroom environment by showing the usability of M-MALL in the classroom. Furthermore, this study will also guide both PSTs and EFL teachers who want to

integrate mobile technologies but unconsciously implement them depending on the Internet search.

Lastly, this study will guide curriculum developers and teacher educators in designing such technology courses for PSTs by offering theoretical background as well as practical tools and concrete examples. The training process will also shed light into how to conduct various EFL methodology courses enriched with examples using M-MALL. In this way, PSTs will not enhance their knowledge on just taking isolated technology integration courses, but learn this integration from their university instructors by actually experiencing it throughout their education. Also, this will increase the number of EFL PSTs who are aware of mobile technologies and knowledgeable on M-MALL integration. Also these PSTs will not be restricted to the ones who take selective courses for technology education. Furthermore, according to the results of the study and experience gained at the end, a handbook will be provided for EFL teacher educators to be able to implement M-MALL training with their PSTs succesfully. This handbook includes sample lesson plans, multimodal smartphone applications, various exercises for PSTs to fully master M-MALL.

1.5. Scope and Limitations of the Study

This study has been conducted in the Turkish English Language Teacher Education context with pre-service teachers enrolled in the ELT Department at Süleyman Demirel University. The results of this study are limited to the M-MALL experience of the pre-service teachers in the research context, although the study aims to propound promising results for pre-service teacher education.

This study focused on the perceptions of participants towards mobile learning after they received training and experienced M-MALL integration in actual classroom settings in their teaching practice schools. Other factors (individual differences, participants' personalities, and prior experiences) that may affect the possible change in participants' perceptions were not taken into consideration for research purposes. Furthermore, this study aimed to investigate the perceptions of pre-service teachers on M-MALL training and the actual experience. Therefore, any other perceptions of the participants on the various aspects of the teaching and learning process other than M-MALL experience were not included in the study.

Consequently, even though the results are restricted to a Turkish pre-service English language teaching context and hard to generalize to other contexts of pre-service teacher education, the development, and implementation of the model of M-MALL training, presentation, and discussion of the findings can shed light on further implementations of M-MALL in other foreign language teacher education programs.

1.6. Definitions of the Terms

Constructivism is an epistemology, a learning or meaning-making theory, that offers an explanation of the nature of knowledge and how human beings learn. It maintains that individuals create or construct their own new understandings or knowledge through the interaction of what they already know and believe and the ideas, events, and activities with which they come in contact.

Digital Divide commonly refers to the inequalities in accessing and using new forms of Information and Communication Technologies.

Modes are sets of socially and culturally shaped resources for meaning making, namely 'channels' of representation or communication.

Multimodality is defined as the use of several semiotic modes in the design of a semiotic product or event.

MALL (Mobile Assisted Language Learning) is learning a foreign/second language through electronic mobile devices such as smartphones, mobile music and video players and handheld or palmtop devices.

M-MALL (Multimodal-Mobile Assisted Language Learning) is the combination and abbreviation of the terms Multimodality and Mobile Assisted Language Learning. In other words, this term refers to the use mobile applications that combine and present various modes in teaching English as a foreign language in order to enhance the meaning making processes of language learners by making several modes available at a time for them.

Socio-cultural Theory asserts that human mental functioning is organized by cultural concepts, activities and artifacts which is mainly a mediated process and individuals are conceived as utilizing their own cultural artifacts and forming new ones to regulate their behavioral and biological activities. Learning results from the dynamic interaction among individuals and cultural artifacts contributing the social formation of the mind and realization of social goals

Technology refers to computers or other electronic equipment that connects or interacts with computers or other electronic equipment e.g., LCD projector, interactive whiteboard, digital camera, tablet, smartphone, student response system, et cetera). Technology also encompasses networks (e.g., Internet, LAN (local area network)) and computer software or applications.

Technology Acceptance is defined as the technology users' intention and its effect on how they accept and adopt new technology.

Technology Integration is a general term covering the stages of technology use by teachers and may refer to the level, intensity, or frequency of technology used.

UTAUT (The Unified Theory of Acceptance and Use of Technology) is a model, which was developed from the Technology Acceptance Model (TAM) and expanded upon the influencing factors for an individual's use of technology.

CHAPTER 2

2. REVIEW OF LITERATURE

The main focus of this study is foreign language teacher education on mobile technology integration in teaching English. Therefore, this chapter primarily concentrates on theories and research based on education and technology through the lens of language teacher education. This chapter starts with the most frequently attributed theoretical foundations in technology and language teacher education, i.e. constructivist and socio-cultural views followed by results of research on technology and teacher education. Next, one of the recent technology-enhanced language learning theories and the main issue of this study, i.e. Mobile Assisted Language Learning Theory and multimodality are introduced followed by related studies on MALL. Lastly, technology acceptance in English language teaching is enlarged upon with definitions and related research on mobile technology acceptance in the English language teaching context.

2.1. Theoretical Foundations of Technology and Language Teacher Education

The literature on technology and language teacher education mostly bases its theoretical foundations upon constructivist and socio-cultural views and the discussions gather around training language teachers on TELL and computer technologies to a great extent. Although there is a vast number of research on implementing mobile technologies to teach English, the scarcity of publications or theoretical guidance in teacher education on specifically how to teach the integration of mobile technologies into language teaching stands out. Therefore, the theoretical views and models on technology and language teacher education in this section depend upon technology integration as a whole with connections to the use of mobile technologies in teacher education.

2.1.1. Constructivist views in technology and language teacher education

Constructivism has been considered as a significant theory for explaining the teacher education process (Kosnik, Menna, Dharamshi & Beck, 2018) and also sheds light on training teacher candidates on technology use. Pre-service Teachers (PSTs

henceforth) constructing their experienced-based knowledge, learning socially, combining all aspects of an individual, and having an inclusive and equal learning community are the key elements of this view (Beck & Kosnik, 2006). Therefore, for the learning to be successful, PSTs should feel safe and be included in their class as a community (Beck & Kosnik, 2006). In terms of learning how to integrate technology, it is expected to provide hands-on opportunities for PSTs who try constructing their knowledge on this type of integration with their peers. Also, this view suggests ensuring an environment that PSTs feel safe when they use technology for teaching. These experiences in the learning process have been considered to be influential in their way of accepting and using technology in their future classrooms (Hart, 2002).

Constructivist practices in teacher education are found to be encouraging for PSTs to value direct experience for learning and the teacher educators' role is to stimulate and maintain curiosity among PSTs to transform their knowledge and experience into opportunities for meaningful learning (Harfitt & Chan, 2017). Dangel and Guyton (2003) conducted a meta-analysis reviewing studies within teacher education investigating constructivism from 1990-2003 in constructivist classrooms. The components that emerged from this study were enabling a learner-centered environment where teacher-learners take responsibility for their learning; providing learning as a social process through small group discussions; supporting reflective learning that enables teacher-learners to combine and highlight the differences in their existing knowledge with new information; providing extensive field experiences that scaffolds teacher-learners' experiences through teacher educators' and mentor teachers' support; learning collaboratively by trying on new ideas and asserting thoughts in a safe environment with their peers; offering problem-solving sessions scaffolded by teacher educators; and enabling authentic assessment though the reflections of teacher-learners (Dangel & Guyton, 2003).

Collaboration with the social community in teacher training can lead to more contextualized learning while enhancing their abilities of socially and culturally responsive teaching (Villegas & Lucas, 2002). In this respect, providing opportunities for PSTs to implement technology into their teaching practices will give them a contextualized learning experience. Hartley (2007) emphasizes the importance of constructing new bridges between local communities and universities. Therefore,

including not just schools into this practice side, but also non-governmental organizations (NGOs) can promote live experiences for teacher-learners and help them transfer their theoretical knowledge into practice (Harfitt & Chan, 2017). In this way, a more powerful teaching experience can be provided for teacher-learners to enhance their teaching abilities with the most recent technological tools.

Another factor highlighted by researchers in constructivist teacher training is a need to enhance the effectiveness of the courses carried out for field experience, as Zeichner (2012) points out very little success is achieved through these courses due to the limited time allotted for those courses. Hence, an on-going professional development with the inclusion of all the stakeholders from the very beginning of teacher training has been offered (Darling-Hamond & Bransford, 2005). Moreover, along with its duration, the contents of the Teaching Practice course should be improved in a constructivist manner including high-quality feedback from mentor teachers as well as faculty supervisors and mentor teachers' modelling teaching using constructivist methodologies in the classroom so that PSTs can have a chance to observe them before actually teaching in an authentic environment (Hargreaves & Fullan, 2012; Kazemi, Lampert & Franke, 2009). In line with this perspective, the need for a modelling technique for technology use in the classrooms by both teacher trainers and mentor teachers arise to help PSTs construct this knowledge of technology implementation.

In constructivist views to teacher education, reflectivity has been seen as a significant factor to promote teacher-learners' professional development (Kincheloe, 2003). According to Kuru Gönen (2012), reflection on their teaching allows student teachers to raise awareness for desired outcomes in their teaching. She further highlights the contribution of reflective teaching in school experience on PSTs and states that having a chance to formulate their own beliefs based on self-observation and experience can affect their future teaching careers positively. Therefore, reflectivity plays an important role in the steps of PST training on technology use. Based on all these features of the constructivist approach, different models have been created for teacher training on the use of technology in foreign language education. One of the most recent of these models, *the ECCR model of teacher development in technology integration* (Son, 2018), whose components- exploration, communication, collaboration and

reflection- provide a basis for the model proposed in this study, is presented below with details.

ECCR model of teacher development in technology integration

Abbreviated from the words Exploration, Communication, Collaboration, and Reflection, the ECCR model is based on the conceptual framework of constructivism. The elements suggested for foreign language teacher training in this model are interrelated with each other and each represents a specific learning activity (Son, 2018). The relationship between these four elements is shown in Figure 2.1.

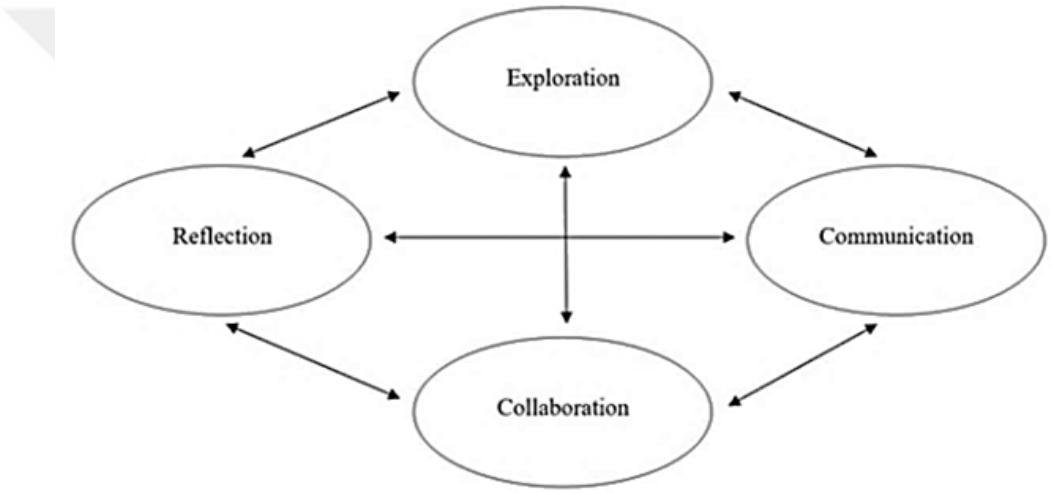


Figure 2.1. *ECCR model of teacher development (Son, 2018)*

According to this model, active exploration, interactive communication, professional collaboration, and critical reflections help PSTs develop their skills and knowledge (Son, 2004). In this way, PSTs feel professionally competent and personally confident in using technology in the classroom. As suggested by the constructivist view, PSTs are encouraged to discover knowledge and take a hands-on approach to learn (Son, 2018).

Developing language teachers for using technology requires exploration which also forms a basis for teacher learning. According to Son (2018), teachers need to observe and explore technologies and resources which require checking the availability of technologies, consider the options, take technology-based courses, read related

publications, attend related conferences and implement one technology at a time to be able to handle it efficiently. That is, PSTs and in-service language teachers are expected to go through a self-exploration process and be autonomous social learners (Son, 2014).

Communication includes having interactions with language learners, colleagues/peers, teacher educators, and researchers (Son, 2018). Computer-Mediated Communication (CMC) has been offered for communication, collaboration, and reflection that generates interactions through video conferencing, e-mail, blogs, or discussion forums. These tools are seen as necessary for teacher development as the effectiveness of teachers is found to be highly related to being skilled in communicating (Meskill, 2009). Furthermore, these tools are considered as contributive to teachers' practical knowledge which includes teachers' professional and personal perspectives on integrating technology into their teaching and their abilities to encourage themselves and their students to learn to use new tools (Haines, 2016).

Collaboration requires teachers to work together to share their resources, ideas, and experiences. In this respect, teacher education programs are suggested to include online collaboration practices to enable a collaboration experience in a virtual environment (Ernest et al., 2013). Hence, teachers can learn skills like planning, designing, and managing online collaboration activities and giving clear instructions, scaffolding, and encouraging their learners. Moreover, with the above mentioned CMC tools teachers can also collaboratively share ideas and resources with their colleagues and students (Son, 2006).

Reflection is a commonly accepted component of teacher education (Son, 2018) and referred to as "the process of critical examination of experiences" (Richards & Farrell, 2005, p. 7). It is found to be a fundamental notion of reflective practice which enables teachers to critically reflect on their teaching and learning experiences (Son, 2004). According to Richards and Farrell (2005), self-monitoring, peer observation, keeping teaching diaries and portfolios, action research, and team teaching are helpful steps to enhance their teaching when utilizing technological tools.

To sum up, according to the constructivist approach, training PSTs on technology integration is based on the exploration of available educational technologies, communicating by using these technologies, designing collaborative educational environments with the tools to communicate, collaborating with colleagues in sharing

resources, and reflecting on their developmental processes while integrating technology. The steps specified in this theory should be followed in pre-service teacher education. In this way, benefiting from the features of constructivist education in technology-oriented teacher training models will have beneficial outcomes.

2.1.2. Socio-cultural views in technology and language teacher education

The socio-cultural theory has become a multidimensional theoretical framework to investigate foreign language teacher learning (Nguyen, 2019). According to Johnson and Golombek (2020), the socio-cultural view of teacher education represents a comprehensive theory of mind with which the conceptions and activities in language teacher education research can be informed and transformed. From this perspective, being regarded as learners of teaching, the social situations teacher-learners bring to their professional development, and the knowledge to use these situations are found to be highly important in their cognitive development (Johnson, 2009). Furthermore, as Nguyen (2019) notes, a PST should be understood as an individual involving both cultural and historical backgrounds with a wide variety of issues from past, present, and future. Studies investigating the personal histories of teachers found out that cultural backgrounds (Nguyen, 2017), prior educational and professional experiences (Nguyen & Brown, 2016), and beliefs (Yuan & Lee, 2014) are influential in PSTs learning experiences and outcomes. Therefore, in training PSTs for technology integration taking their beliefs and acceptance of existing technologies and their preferences into account plays a significant role. That is, the beliefs and choices they bring in the training process determine the ways they shape their designs of future EFL lessons enhanced with technology. Moreover, from the socio-cultural perspective, teachers are recognized as actors both influenced and influencing social situations (Johnson & Golombek, 2018). Thus, it is important to allow PSTs to share and exchange ideas about technology integration. Bearing these foundations of socio-cultural view, researchers (Bax, 2003, 2011; Chao, 2015; Torsani, 2016; Guichon & Hauck, 2011; Guichon, 2012) have discussed PST education for technology integration in terms of several concepts such as normalization, transfer, and reconstruction.

Normalization is proposed by Bax (2003) and indicates the stage in which technology has become a part of people's daily lives. In his article in which he redefines

normalization, Bax (2011) bases his theory on the insights of Neo-Vygotskian Theory and cites:

- *"Learning and development are "culturally based, not just culturally influenced"*
- *"Learning and development are "social rather than individualized processes"*
- *"Learning and development are developed "communicatively'*
- *"Understandings are constructed in culturally formed settings"*
- *"Learning with assistance or instruction is a common and important feature of human mental development"*
- *"The limits of a person's learning or problem-solving ability can be expanded by providing the right kind of assistance or instruction" (Mercer & Fisher, 1997, pp. 13-16, in Bax, 2011, p. 7)*

According to Bax (2011), a language teacher who deals with new technology should not be considered as acting alone since this activity is a social process, understood through culturally formed settings, developed through communication and assistance, and is based on culture. Thus, normalization "depends on far more than the attributes of the technology itself or any other sole agent, and that it involves a host of social and cultural elements operating together in complex ways". In other words, the English teacher is not a 'sole agent' functioning in isolation, rather a social being influenced by his cultural surrounding.

Another point made by Bax (2011) was that 'Needs Audit' should be carried out before using technology in language teaching. 'Needs Audit' refers to the questioning of the necessity and the usefulness of the technology being considered to be used. In this, the priority is given to learning by considering the more practical and cheaper possibilities. Therefore, instead of exposing technology integration to language teachers, the concept of 'Needs Audit' should be presented to PSTs so that they can evaluate the effectiveness of the technological tools they have in their hands for their teaching context.

Bax (2011) also proposes elements of effective educational practice which he offers for teacher educators as well to take into consideration in training PSTs on technology use. He suggests that access to prior knowledge is important; participation and interaction with each other are valuable for social and emotional dimensions in education; expert scaffolding is necessary to have feedback, advice and for checking progression; expert modelling should be done to exemplify technology integration, and

challenge and contradiction from an expert or other learners should exist to reflect and reconsider on learning.

Another significant concept of the socio-cultural perspective in teacher education is the ability to transfer. Transfer means the process in which language teachers apply the abilities that they learned during their technology courses into their teaching and is important in defining what, and to what extent, teachers learned from a technology course (Torsani, 2016). According to Chao (2015), this term refers to the use of a specific technology as it was presented in a technology course without any change. That is, if teachers are shown how to create a speaking task with a specific technological tool in their technology class, transfer requires using the same tool for the same aim in their actual teaching experience. However, Chao (2015) discusses the fact that in-service and pre-service teachers differ from each other as their use of technology will be in different contexts and they will have different identities. Basing his views on Beach (2003)'s 'consequential transitions' and acknowledging the significance of socio-cultural contexts for transfer, Chao (2015) puts forward the idea of long-term transition. According to this view, teachers should not be expected to simply transfer what they learned in their technology course, rather teacher trainers should help PSTs to think more deeply about their positions and attitudes toward technology use since by the time PSTs are in the classroom newer technologies may emerge. By reflecting on technological tools, their usages and their effect teachers can build up competencies to transfer technology in various contexts which enables them to be creative in utilizing new technologies (Torsani, 2016).

Reconstruction or 'reconstructive practice' is seen as a parallel process since technological tools modify the processes of integration. For instance, writing on a pc and writing on a traditional computer are no longer the same things, and similarly, language teaching is also reconstructed (modified) by technologies (Torsani, 2016). A reconstruction process of an English teacher is reported in Guichon (2012)'s study. This language teacher went through five reconstruction stages namely, latency, explorative, measurement, experimentation, and banalization stage. In the first stage, latency, she wished to try a new tool but this was hindered due to lack of interlocutors. In the explorative stage, she sought information and got into touch with people who know how to use technologies. In the measurement stage, she chose a context (a skill or a class) for

utilizing technology with her know experiences (her daily teaching practice). In the experimentation stage, she negotiates with herself on how to introduce the new tool to the class. Finally, in the banalization stage, she became an expert and the new technology is no longer novel to her. According to Torsani (2016) this process of reconstruction goes hand in hand with normalization and transfer processes which all together define how language teaching pedagogy should be for technology integration.

Guichon and Hauck (2011) compiled the previous experiences in teacher training in technology use and suggested some guidelines to be used in designing a curriculum for teacher trainers.

1. "Share out the techno-pedagogical components all along the training program instead of making them the content of a stand-alone module (Peters, 2006).
2. Anchor teacher training and experiment with technologies in a specific setting, so that trainees develop a better understanding of institutional constraints (Egbert, Paulus & Nakamichi, 2002).
3. Focus on the development of competences that can be transferred to other educational contexts (Slaouti & Motteram, 2006).
4. Develop basic technical skills that can readily be used instead of training teachers to use a bespoke application or program that might become obsolete quickly (Kessler, 2006).
5. Make sure trainees put pedagogical objectives before technological ones (Fuchs, 2006).
6. Adopt constructivist or socio-constructivist approaches to language learning to help trainees conceptualize the use of tools in a pertinent way (Parks, Huot, Hamers & Lemonnier, 2003).
7. Develop collaboration skills among trainees (Parks et al., 2003)".

These two theoretical views draw a detailed framework on the use of technology in language teaching concepts such as reflectivity, collaboration, normalization, and transfer play an important role in preparing a training program for EFL teacher candidates to integrate mobile technologies into their teaching. Although the scarcity of studies on training PSTs for mobile technology use in their classes stands out, several studies on proposing some models and guidelines on the use of technologies, in general, have been offered in the literature.

2.2. Research on Technology and Language Teacher Education

New trends in education highlight the necessity to integrate digital tools into existing learning environments to transform and enhance learning (Anderson, 2009).

The use of these recent ICTs and the Internet enables both learners and teachers to have the opportunities to develop academically and socially by providing new assessment models, collaboration mediums, visual stimulants, and new learning activities (Meyer, 2015). The studies emphasize that foreign language teachers (both pre-service and in-service) have positive attitudes towards adopting ICTs and the Internet in their language courses regardless of the teaching model (blended or traditional) used in the schools (Aydın, 2013; Barnes, 2018; Mei, Brown & Teo, 2018; Yokuş, 2016). However, foreign language teachers have been found to lack mental and skill access that can help them use ICTs at their hands (Lozano & Izquierdo, 2019). Even though a variety of organizations and institutions state many expected competencies from teachers, there is still obscurity in how teacher training should pave the way for gaining these competencies to integrate technology into teaching (Aydın, 2017).

Some researchers have indicated that the insufficient and inappropriate education that foreign language teachers receive is among the reasons for this unfavorable digital division among teachers (Hsu, 2016; Lord & Lomicka, 2011). Kuure et al. (2016) indicated that there is a necessity for foreign language teachers to both know how to use ICTs in the foreign language classroom and be trained on designing their language learning tasks with the recent technologies. In a similar fashion, Hsu (2016) emphasized the gap in foreign language teacher education and ICT implementation in language teaching and indicated that teacher training programs should offer courses on how to optimize the effective use of ICTs and the Internet in line with the curriculum requirements. While Lord and Lomicka (2011) stated that the foreign language teachers should be equipped with a wide variety of new technological tools, Lozano and Izquierdo (2019) underlined the fact that foreign language teachers should not just acquire the latest technologies, but also learn how to implement them in a pedagogically sound way in the classroom.

Yeh (2018) conducted a quantitative study investigating the technology integration and preparation in Teachers of English to Speakers of Other Languages (TESOL) programs in the United States. The researcher collected data from PSTs enrolled in thirteen TESOL programs. She implemented the TPACK survey to find out the PSTs perceptions of technology integration in their TESOL teacher preparation programs. The results of this study revealed that the PSTs did not encounter any

technology integration as an example of English as a Second Language (ESL) teaching activities. Furthermore, they stated that they had no support for technology integration in their teaching during practicum. The participants reported that they only had a chance to observe their professors using technology during their courses in the TESOL program. They also stated that they did not encounter any technology integration with their practicum teachers. Thus, this study shows that these participants are not prepared for integrating technology into their teaching since they could not receive any training or see any good examples throughout their education.

Similarly, in Aşık et al. (2019)'s study three language teacher education (LTE) programs were compared in terms of how well these programs prepare pre-service teachers for technology use in their language classrooms in Turkey, Poland, and Portugal from the views of teacher trainees (TTs) and teacher educators (TEs). Furthermore, this study aimed to find out what the TEs' implementation strategies about ICT Integration into LTE programs in Turkey, Poland, and Portugal are. A total of 150 TTs and TEs participated from these three countries. The data were collected from an ICT scale and semi-structured interviews. The quantitative results showed that all three countries have similar strategies for preparing TTs in terms of integrating technology into language teaching. According to these results, the three LTE programs have moderate level contexts to utilize ICT preparation strategies, and this level was found to be unsatisfactory but promising by the researchers of the study (Aşık et al., 2019). They asserted that the language teacher training programs should be redesigned including "opportunities for more hands-on and situated practices incorporating more reflective experiences, collaborative activities with formal and informal peer support, mentoring, coaching and continuous reflection" (p.17). The results further revealed that TTs have few opportunities for authentic technology experience, and technology-related courses should be integrated into LTE programs. Hence, with the results of this study, the need for a specific and comprehensive training model including a part in which TTs have opportunities to implement technology in their teaching became much clearer.

A quite recent study addressing the lack of training and hands-on experience that ELT PST have was conducted in Turkey with eight pre-service teachers and ninety-five English language learners, Kuru Gönen (2019) implemented qualitative research with an experimental design lasting twelve weeks to find out the PSTs and foreign language

students' perceptions on technology integration into foreign language classrooms during a situated practicum experience. She suggested a model for integrating technology into L2 classroom which consists of five steps: (1) Developing necessary skills and knowledge, (2) Observation: school and class environment, (3) Selecting the appropriate Technological Tools, (4) Integration, and (5) Reflection on the whole process. The researcher collected data through reflective diaries and focus-group interviews. The results of the study revealed that technology integration enhanced language skills and areas such as oral skills, vocabulary, and retention rates; created a positive classroom atmosphere in which lessons are more enjoyable, motivating, interactive and cooperative; helped teachers in being active, saving time, involving different learning styles and identifying students' levels. The results also highlighted some drawbacks such as problems in technical aspects, difficulties for lower-level students limited time, boredom/lack of interest, and class size (Kuru Gönen, 2019). Thus, the results of this study show that when given opportunities it is possible to train PSTs on technology integration based on specific models. However, the existence of such models is limited in number.

Another model has been proposed by Aydın (2017) which looks at the issue from a different point of view. Instead of training PSTs, this model offers PSTs and mentor teachers at practicum schools to work together to prepare technology-based language teaching materials. Aydın (2017) introduced the 'Reverse Mentoring Model' and proposed a specific course named 'Digital Material Development' for pre-service teacher (PST) education in terms of integrating technology into language teaching. She discussed the problems of in-service and pre-service training programs and highlighted that both training programs do not yield desired outcomes in both in-service and pre-service teachers' technology integration levels. For this reason, as a solution, the researcher offered the 'Reverse Mentoring Model' in which the PSTs will be instructed on technology integration and be expected to prepare materials collected in a pool. Later on, PSTs will be asked to use the digital materials to prepare lesson plans for their practicum. Their presentations will be observed by in-service teachers (mentors) and PSTs will teach their mentors how to use and prepare digital tools for their specific lessons. The mentor teachers also prepare tools for the pool. This pool will be used by PSTs and in-service teachers throughout the country. In the course offered by Aydın

(2017), PSTs are expected to follow the steps of this model by also observing each other in teaching practice and enhancing the digital tool usage by their feedback. Although, the model and the course based on this model offered will lead to beneficial outcomes for both pre- and in-service teachers in terms of preparing digital materials, there is still a need for a model to train language teachers on the steps of technology integration and lesson preparation as this model lacks the training part of language teacher education on technology.

Sert and Li (2017) conducted a qualitative study to understand the CALL knowledge of 111 EFL PSTs in Turkey and to explore their skills on the design and development of CALL-based activities. Reflective diaries were collected from the participants throughout a 14-week period in which the participants received training on designing CALL materials such as online teaching tools and Web 2.0 tools. Results revealed that CALL knowledge is based on disciplinary knowledge including benefits and role of technology; instructional knowledge including activity and technical design and contextual knowledge including student and technology availability. Based on the findings of this study, the researchers proposed a new model for teacher training in CALL pedagogy. In this new model, they asserted that EFL teacher training should include the steps of experiencing, thinking, doing, and reflection. Thus, they emphasized the importance of guiding PSTS on the development of practical knowledge processes, enhancing PSTs' decision-making skills, and reflecting on the implementation of CALL. As a result, the findings and the model proposed at the end of this study signal a need for systematic training on technology use in the class for EFL PSTs.

The above-cited studies show that teacher education on technology integration should provide systematic training including experience and reflection steps. However, these studies also highlight that there is a serious gap in language teacher education in terms of integrating technology into their lessons. Almost all of the studies treat technology as a whole in training PSTs and do not offer specific training methods for recent technologies existing today such as mobile technologies. Therefore, focusing on a specific technology integration approach, i.e. MALL in PST education will offer a more comprehensive and detailed model. Furthermore, these studies found out that understanding the perceptions of PSTs towards adopting and using technologies in the

classroom play an important role in EFL teaching. Therefore, how EFL PSTs accept recent technologies is another issue necessary for investigating their views on the integration of multimodal mobile technologies.

2.3. Technology Acceptance in English Language Teaching

Although it is necessary to know the use of technology in education, this information is not sufficient to effectively integrate technology into lessons, as also mentioned in the digital divide. In addition to informing prospective teachers about the use of technology in foreign language education, how well they accept and how ready they are to use this technology are important for successful technology integration. At this point, it is necessary to understand technology acceptance and to examine which constructs affect prospective teachers' perspectives on technology integration.

The technology users' intention and its effect on how they accept and adopt new technology has long been an area of research (Wang, Wu & Wang, 2009). This intention is prerequisite for recognizing the value of the new technology (Min, Ji, & Qu, 2008). The studies on the notion of accepting technology, namely technology acceptance, try to investigate and understand the individual and organizational acceptance of innovation (Bauer, Reichardt, Barnes & Neumann, 2005).

User acceptance is crucial determining the success of a technology implementation (Alwahaishi & Snášel, 2013). The availability of an information technology does not determine the success of the technology most particularly if that technology has not been fully accepted by the users. Many new technologies fail to meet expectations because of user rejection. The reasons for rejection can range from lack of training and communication to incorrect and improper interpretation of needs of the users (Alwahaishi & Snášel, 2013; Mac Callum & Jeffrey, 2013). Johnson (2018) states that although failure in the technology implementations mostly occur due to lack of usage by the users, in reality the new technology may not have been presented to the users in an appropriate or meaningful way. Therefore, understanding the factors determining the acceptance of a new technology is significant in accessing its potential success and with this aim various theoretical models have been presented in the field trying to explain the technology acceptance of users. These theoretical models are Theory of Reason Action (TRA), Theory of Planned Behavior (TPB), Technology

Acceptance Model (TAM), Motivational Model (MM), Combined Theory of Planned Behavior and Technology Acceptance Model (C-TAM-TPB), Model of PC Utilization (MPCU), Innovation Diffusion Theory (IDT) and Social Cognitive Theory (SCT).

However, each of these theories focus on specific constructs such as attitude, motivation, expectation or self-efficacy, which made these theories somehow insufficient to explain fully the notion of technology acceptance. Thus, the Unified Theory of Acceptance and Use of Technology (UTAUT) was proposed by Venkatesh, Morris, Davis and Davis (2003) to provide a more detailed framework to explain people's technology acceptance.

The UTAUT was derived from the eight prominent theoretical models on technology acceptance by comparing and integrating elements from those models and it is the most recent theory which explains users' technology acceptance process (Ahn, 2018). This recent theoretical model provides a framework for assessing the potentiality of technology acceptance and use when a new technology is introduced (Venkatesh et al., 2003). In other words, its primary objective is to assess the degree to which a user is willing to accept and use a new technology. According to Venkatesh et al. (2003), there are four predictor variables in technology users' intention to use and actual use: (1) performance expectancy, (2) effort expectancy, (3) social influence, (4) facilitating conditions. While the predictors performance expectancy, effort expectancy, and social influence contribute directly to behavioral intention, facilitating conditions contribute directly to actual use (Venkatesh et al., 2003). In addition to those key determinants, there are four moderators explaining users' individual differences on their technology acceptance: (1) gender, (2) age, (3) experience, (4) voluntariness of use (Venkatesh, Thong & Xu, 2012). Figure 2.2 illustrates the relationship between these predictor variables and moderators.

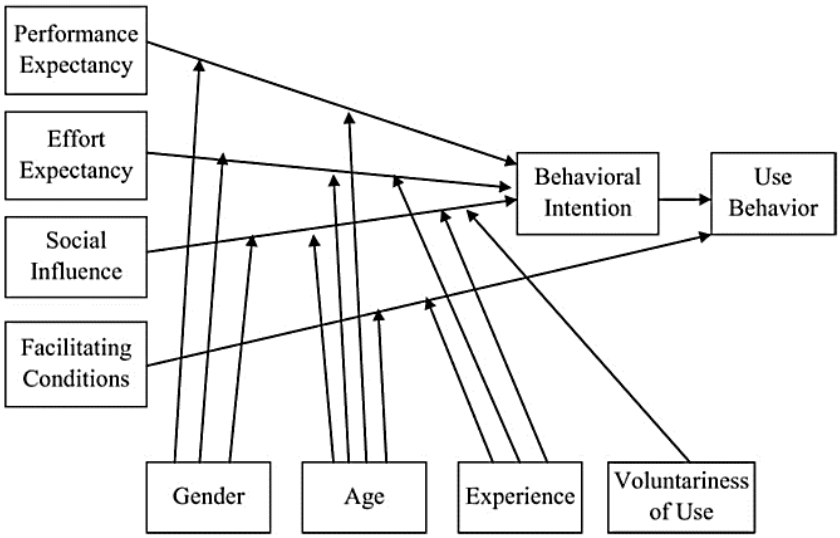


Figure 2.2. *The UTAUT Model (Venkatesh et al., 2003, p.447)*

The prediction level for technology acceptance has improved with UTAUT as it is a combination of various technology acceptance models. UTAUT has been seen as a strong theoretical model to identify the motives behind technology acceptance and to provide clarity for these motives (Johnson, 2018). While the prediction rate was 42% in Technology Acceptance Model (TAM) (Venkatesh et al., 2003), this rate has increased to 70% with UTAUT (A.Iahad & Ab.Rahim, 2014; Moran, Hawkes & El Gayar, 2010; Oye, Thomas, Singh & Gaffar, 2013; Venkatesh et al., 2012). Therefore, the motives behind technology acceptance of PSTs are considered to be significant determinants of their perspectives on integrating M-MALL intro language teaching and in this respect, the constructs of UTAUT model are thought to be helpful to understand their views. These constructs are that directly influence an EFL PST's decision to accept (Behavioral Intention) and use (Use Behavior) M-MALL in the contextof the current study are described in Figure 2.3.

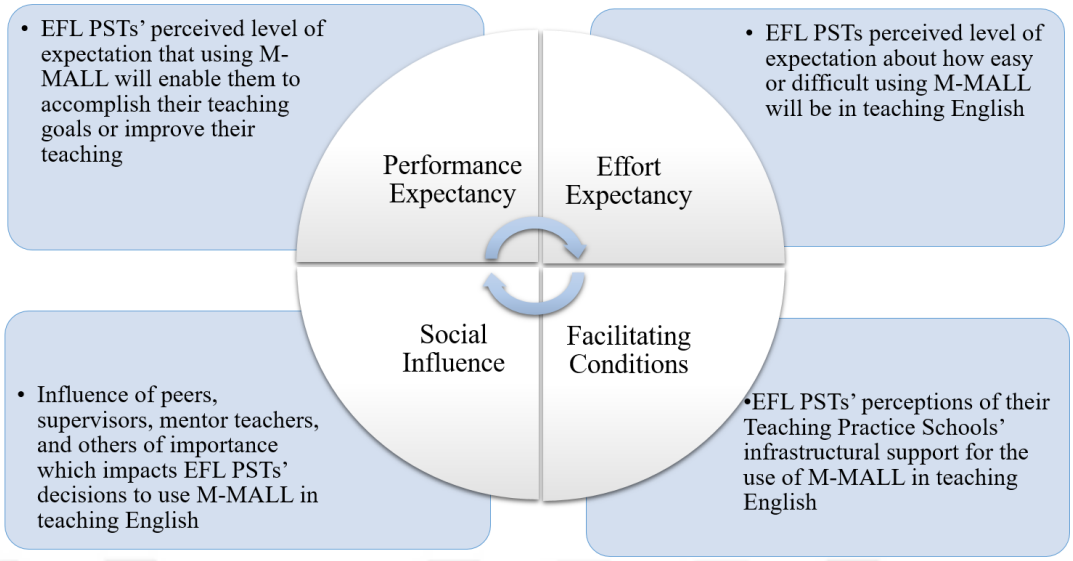


Figure 2.3. *UTAUT Constructs and definitions in the research context*

As seen in Figure 2.3, *Performance Expectancy* of EFL PSTs' will explain their perceptions based on how successful M-MALL for reaching their course objectives and for their professional development. *Effort Expectancy* will help interpret EFL PSTs' beliefs on the easiness of integrating M-MALL in their teaching. *Social Influence* will reveal the impact of others in EFL PSTs' choices for using M-MALL in teaching. Lastly, *Facilitating Conditions* will help clarify EFL PSTs' perceptions on the availability of technological support from the schools they implement M-MALL in their actual teaching. These constructs of the UTAUT Model are considered to be helpful in understanding and explaining their behavioral intentions and perceptions of EFL PSTs on integrating M-MALL into teaching English. Various studies have used these determinents of this comprehensive theory to explain the EFL PSTs' and in-service teachers' intentions to use technology in language classrooms. The recent studies on technology acceptance in English language context are presented in the following section.

2.3.1. Research on technology acceptance in English language teaching context

The UTAUT has been extensively used in many research areas, such as education, mobile and internet banking, health information technologies, etc. (Alwahaishi & Snášel, 2013; Taiwo & Downe, 2013) to find out users' technology acceptance in

various technologies including but not limited to Internet, web applications/services, and mobile technology, and Venkatesh et al. (2003)'s publication has been cited approximately 5,000 times (Williams, Rana & Dwivedi, 2015). Although a great body of research in educational settings investigated the learners' technology acceptance, there are several studies focusing on in-service and pre-service teachers' perceptions and acceptance.

In a similar context to the current study, Batane and Ngwako (2017) investigated technology use by pre-service teachers during teaching practice. The study took place in a naturalistic environment in which pre-service teachers were not asked, reminded or expected to use technology in their teaching practice. A total of 52 pre-service teachers participated in the study. Data were collected through observations, interviews, and document analysis. The results of this study indicated that the majority of the participants did not use technology during the delivery of their lessons. However, the majority of the participants in the study stated that they believed that technology was useful in learning and could have enhanced students' understanding through various ways such as attracting their attention, simplifying concepts, saving time, and providing information that is not covered in the textbooks. The participants reported that they felt technically skilled enough to easily use technology resources in their teaching. Most of the participants indicated that the environment in the schools was not conducive for technology use because there were no readily available resources in the classrooms to use technology with the students. Findings also showed that there was no significant difference in the way technology was used or not used in relation to the participants' gender, age and experience, especially that the majority of the participants did not use technology in their teaching. Thus this study shows that even though PSTs have technology acceptance and eager, they did not use technology in their lessons. This may indicate the necessity for a training or guidance in technology integration in teacher education process.

The similar need also emerges from the study of Koral Gümüşoğlu and Akay (2017). They conducted a quantitative research on 44 English Language Teachers working at School of Foreign Languages at Anadolu University, Turkey in order to understand their technology acceptance level. The researchers used Venkatesh et al. (2003)'s instrument to collect data. The results revealed that participants mostly have

positive attitudes towards their performance expectancy and thought that ICT is useful for their courses. Furthermore, the participants are mostly found to be capable of learning how to operate ICT systems. The participants indicated mostly positive attitudes towards using technology in their teaching. Also, the participants strongly agreed that their institution encourages them to use ICT in their teaching. On the other hand, findings showed that participants need to have somebody to help them while using ICT and teachers may have some doubts about their self-efficacy in using technology in the classroom. These results also demonstrate lack of training on technology integration into language teaching since technology acceptance is observed to be not solely responsible for teachers' use of technology.

Teo and Noyes (2014) investigated 264 pre-service teachers' intentions to use technology as students using technology in their own courses and as teacher trainees teaching with technologies in their school practices. In order to collect data, the researchers used a survey questionnaire comprising adapted items from Venkatesh et al. (2003). The results indicated that pre-service teachers' intention to use technology will be strengthened if they perceive technology to be easy and relatively free of effort to use. Social Influence was found to have a significant effect on intention to use technology. The researchers suggested that since pre-service users observe and treat significant others as models of technology use, teacher educators should promote technology use by making explicit the need to use technology for teaching and learning by using technology in their lectures, tutorials and mode of communication. As a result, a need for training on technology integration in teacher education programs has also been highlighted in this study.

Osakwe et al. (2017) investigated the perceptions of learners and teachers towards mobile learning in Namibian High Schools. They adopted a mixed method research design. 120 students and 24 teachers, whose subject areas were not indicated in the study, from three different high schools took place in the research. Data were collected through a survey (Venkatesh et al., 2003) and open-ended questions. Findings of this study showed that teachers found mobile devices useful and easy to use in teaching and thought that mobile technology would likely enhance their teaching activities. Moreover, teachers agreed that if their learners were to use mobile learning, this would increase their chances of getting better grades. Also, teachers indicated that using such

devices may make students lose concentration, but they want a go-ahead to adopt mobile learning in the curriculum still. While students in the study stated that they enjoy learning with mobile devices, teachers stayed neutral. Likewise, while students in the study think mobile learning devices increase their curiosity, teachers stayed neutral again. 93.8% of the teachers agree that they will be happy to use mobile learning devices if they are introduced for teaching and learning. The results of this study also indicate that while teachers are aware of the benefits of integrating mobile technologies into their teaching, they still need a guidance.

All of the studies presented above pointed out the necessity of a training. Even though the results highlight the acceptance of technology use in the classroom by teachers, they still need guidance on how to achive this integration successfully. Thus, a need for a systematic and detailed training model on technology integration, especially for mobile technologies, which provide various contributions to EFL learning and teaching, needs to be developed and proposed in EFL teacher education. To achive this aim of a comprehensive training model it is necessary to understand the foundations and concepts of MALL.

2.4. Mobile-Assisted Language Learning

Learning through electronic mobile devices such as smartphones, mobile music and video players, and handheld or palmtop devices is called Mobile Learning (M-learning henceforth) or in language learning context MALL (Crompton, 2013; Hockly, 2013; Kukulska-Hulme & Shield, 2008; Quinn, 2000; Sandberg, Maris & de Geus, 2011; Sharples, Taylor & Vavoula, 2007; Traxler, 2005; Vavoula, Sharples, Rudman, Meek & Lonsdale, 2009). As stated in Jackson (2017) the terms M-learning and MALL are used interchangeably considering their particular usage and depending on the researcher's or educational practitioner's discretion. Furthermore, while according to some researchers MALL is a subset of M-learning (Viberg & Grönlund, 2013), some consider it as a branch of CALL (Joseph & Uther, 2006). It has been seen as the latest phase of CALL which concentrates on digital media and promotes collaborative learning via the social aspect of the Internet (Thomas, Reinders & Warschauer, 2012). However, the overlap of its trends, history and terms and the ever-growing research and theories on MALL, make it more of a sub-area of M-learning (Viberg & Grönlund,

2013). Also, the research on mobile technologies and the way they assist language learning is still under development. For these reasons, in this study MALL will be used for M-learning by taking into consideration of the current study's context.

Researchers indicate that MALL is ubiquitous and frees learners from fixed and predetermined locations (Vavoula et al., 2009), and makes learning available at any time and anywhere (Hockly, 2013; Horton, 2012; Kukulska-Hulme & Shield, 2008; Miangah & Nezarat, 2012; Park, 2005). Enabling learners to be in multiple contexts thanks to its' ubiquitous nature, MALL provides learners getting engaged with conversations in various places (Sharples, Taylor & Vavoula, 2007). Therefore, MALL is also defined as learning in and across multiple and ever-changing contexts (Crompton, 2013; Hockly, 2013; Pachler, 2009). Lastly, the definitions in the literature meet on the common ground that MALL provides learners a personalized experience in which they can fine-tune their learning path according to their needs and learning speeds (Miangah and Nezarat, 2012; de Oliveira, 2015; Park, 2005; Vavoula et al., 2009). The current study adopts all these aspects of MALL and incorporates them with multimodality that mobile technologies provide for language learning (Kukulska-Hulme et al., 2017).

Various researchers have offered pedagogies for integrating mobile devices into lessons. According to Stockwell and Hubbard (2013), a lesson, in which mobile devices are integrated, should be designed by (1) considering the affordances and limitations of mobile devices and the environment in which the device will be used; (2) limiting environmental distractions; (3) respecting boundaries of students and teachers; (4) maintaining equity; (5) considering learner differences; (6) being aware of the ways how learners use their mobile devices; (7) keeping activities and tasks brief; (8) having a suitable language learning task that fits with technology and vice versa; (9) offering learners guidance and training on the effective use of mobile devices.

Another pedagogy for the integration of mobile technologies was offered by Miller and Doering (2014). Their recommendations are more related to the selection of appropriate mobile technology. In order to develop meaningful learning experiences, a teacher should pay attention to the ease of touch screens and gestures; being able to be used anywhere, anytime; being up-to-date; being able to manage data easily; provide

access to all learners; being functional, and being motivating by encouraging students' achievements.

Combining both technological and learner considerations, Franklin (2011) offers a brief but easy to apply lesson design principles for mobile learning. First of all, she suggests that learner differences should be taken into consideration and content should be designed allowing group work as well as individualization, since some students may require more practice and time for mastery of a subject. In order to ensure students that they are free to make mistakes, judgments should be done by using the mobile device and mobile application being used. Furthermore, due to the disappearance of some content with some applications after the lesson, teachers should consider using mobile technologies that offer students to have continuous access outside class to be able to rehearse the content being taught. Lastly, the mobile application chosen for the lesson should enable access where the internet is available or not; communication and collaboration with peers and teachers; and make it easy to create and share documents (Franklin, 2011).

A more recent pedagogy has been proposed by Kukulska-Hulme et al. (2017, p. 221). They indicate that "despite the growing body of publications offering guidance to teachers, there is, as yet, relatively little advice that would help teachers understand informal learner practices using multiple modes of communication, making use of mobile and social technologies across a range of physical settings". In this respect, these researchers offered pedagogic skills and competencies implied by mobile assisted language learning and teaching (see Figure 2.2.)

Figure 2.2. *Pedagogic skills and competencies implied by mobile assisted language learning and teaching (Kukukska-Hulme et al., 2017, p. 221)*

According to these researchers, mobile tools are multifunctional and change the traditional definitions of communication based on speech and written text. Their functions allow EFL learners to benefit from a wide range of modes such as sound, proxemics, gesture, image and space, and these are brought together to form logical meanings within a range of interactional communicative situations. This multimodal posture enables learners to understand the 'dynamic interplay' of communication combined with various modes that 21st century puts forth. Thus, enhancing the digital and multimodal literacies of EFL teachers in the MALL pedagogy is expected to support them in understanding "learner practices using multiple modes of communication, making use of mobile and social technologies across a range of physical settings" (Kukulska-Hulme et al., 2017, p. 220).

In proposing an M-MALL teacher training model, the current study adopts all of the MALL pedagogies suggested by the previous work in the MALL literature stated above (i.e. lesson design, selection of appropriate mobile technology and multimodality) and tries to develop EFL PSTs' multimodal literacies in designing MALL lessons for their EFL learners. From this point, it is crucial to understand multimodality and its place in MALL.

2.4.1. Multimodality in MALL

Multimodality was developed in the early 2000s (Jewitt, 2009; Kress & van Leeuwen, 2001; Kress, Jewitt, Ogborn & Tsatsarelis, 2001, 2005; van Leeuwen, 2005;) and is defined as "the use of several semiotic modes in the design of a semiotic product or event, together with the particular way in which these modes are combined – they may, for instance, reinforce each other …, fulfill complementary roles … or be hierarchically ordered" (Kress & van Leeuwen, 2001, p. 20). Multimodality has been originated from Michael Halliday's ideas on language as a social semiotic system. According to him speaking and writing are used for making meaning differently in different contexts. Therefore, they pave the way for different ways of knowing and consequently different ways of learning (Halliday, 1985). Along with the invention of the telephone and the increasing popularity of television, the neglected spoken language began to attract attention (Halliday, 1985), and due to recent developments in technology, writing has become less dominant since it competes with visual and spoken language.

These ideas of meaning-making of Halliday have been developed further by Kress and van Leeuwen (2001). According to them, being made up of 'modalities' (written, spoken, visual and bodily resources), language is a complex system, and each of those 'modalities' has their materialities and affordances for meaning-making. Therefore, language is made up of different, "independent meaning-making systems, which are however co-ordinated so as to produce a single, if complex, integrated and differentiated text-message" (Kress, 2000b, p. 186). As stated here, modes are sets of socially and culturally shaped resources for meaning-making, namely 'channels' of representation or communication (Kress & van Leeuwen, 2001). Materiality indicates how modes are taken to be the product of the work of social agents that shape the material into cultural semiotic resources. Semiotic resources refer to the connection between representational resources (material, social, and cultural) and what people do with them (Jewitt, 2013). Moreover, affordance is the constraints and potentialities of different modes, i.e. "what is possible to express and represent or communicate easily with the resources of a mode, and what is less straightforward or even impossible" (Kress, 2010).

Nowadays, people have more access to a greater variety of media offerings and combining various modes for making meaning, namely ‘orchestration of meaning’ as stated by Kress et al. (2001). They are accepted as agents who are making meaning and producing texts and continuously changing the representational resources during this time. In other words, they, as makers of text, “stretch, change, adapt, and modify all of the elements used” (Kress, 2000a, p. 155) and mobile devices are clear examples enabling these processes.

The integration of mobile devices into the learning process provides multimodality for learners in making meaning (Kukulska-Hulme et al., 2017), which is an essential point in English language teaching. According to Levitt (2017), multimodal MALL tools assist EFL learning through various channels to the brain and provide information through audio, video, image, color display, text, touchscreen, and interactive features. The recent developments in mobile technologies (i.e. smartphones and tablets) have enabled the integration of numerous sensors into conversational interfaces which made it possible to have multimodal interactions (Griol & Molina, 2016). Thus, multimodality of these mobile tools helps learners find more accessible and usable environments since it allows adaptability to the environment considering the cognitive abilities and limitations of learners (Magal-Royo et al., 2011). Furthermore, by integrating various technologies, the multimodality of mobile devices allows learners to use voice, stylus, or keyboard interchangeably based on their needs for communication (Magal-Royo et al., 2011). These features of devices enable EFL learners to have multimodal communication, collaboration, and language rehearsal (Chua et al., 2020).

According to Chanier and Lamy (2017), language users combine linguistic and non-linguistic modes to covey messages in printed media, and in computer-mediated interactive language learning the variety of these resources, which are available for learners, increase. Similar to computer technologies, mobile technologies, which can be considered as the mobilized forms of computers, enable their users to carry out language learning objectives through the use of these modes. Chanier and Lamy (2017) stated the relationships among objectives, tools, and modes for modality which are presented in Table 2.1.

Table 2. 1. *Modality as a set of relationships among objectives, tools and modes (adapted from Chanier & Lamy, 2017, p. 429)*

Main objectives facilitated	Tools	Modes
Information seeking (preliminary to engagement with tasks or people)	Screens	Dual modes: linguistic (written) and visual
Accessing and interacting with materials and people	Screens (conventional, tactile), pads, microphones, speakers	Multiple modes: linguistic (written, sometimes spoken), visual, kinetic, aural if music is involved)
Reflective activities (revisiting tutorials and conversations), sharing audio-visual material	Recording and screen capture tools	Multiple modes: linguistic (written and spoken)
Communication and interaction (e.g., Like button); create tele-presence; help with turn-taking (e.g., raised-hand button)	Hot buttons	Multiple modes: linguistic (written and spoken), visual, kinetic
Written exchanges; peer collaboration; feedback; commenting; group bonding	Asynchronous sending/ receiving channels; synchronous messaging channels	Mainly written linguistic mode, with elements of visual mode
Oral communication and interaction; collaborative work; feedback; group bonding	Web-conferencing	Multiple modes: linguistic (spoken and some written), visual, kinetic

According to these researchers, the integration of three aspects of communication constitutes modality (Chanier & Lamy, 2017). As seen in Table 2.1 by various features of technological tools multiple modes are made available for language learners in meaning-making. However, the presence of these tools and modes cannot be considered enough to have multimodal language activities. As long as the presentation methods are tailored with the capabilities of mobile tools and the cognitive capacity of learners, the multimedia content delivered to the learners can result in multimodal learning (Milutinovic, Labus, Stojilkovic, Bogdanovic & Despotovic-Zrakic, 2015). Therefore, it is not just the multimodal tools used in EFL learning but the multimodal ways they are integrated make the learning process and the outcomes beneficial for learners.

Despite its usefulness, there are few studies on multimodality in Mobile-Assisted Language Learning leaving it as somewhat an understudied area (Eisenlauer, 2014). The few studies that focus on multimodal learning through mobile devices highlighted the usefulness of these multimodal tools in language assessment (Hwang & Chen, 2013), language production (Kukulska-Hulme et al., 2017), and L2 writing (Li, Dursun & Hegelheimer, 2017). As Lee, Lo and Chin (2019) assert language limitations can be overcome through multimodal resources since they offer a variety of possible modes for the process of meaning-making. Although various contributions of multimodal

resources have been found in these studies, a comprehensive framework for training EFL teachers on how to make EFL lessons multimodal by integrating MALL has not been presented in the literature. On the other hand, the perceptions of EFL teachers on MALL have been investigated by recent studies which are presented in the following section.

2.4.2. Research on mobile assisted language learning

Many advantages have been stated in the literature on the integration of mobile devices in language learning. MALL offers learners faster access to learning materials making the learning process simpler and easier (Gilgen, 2004; Jaradat, 2014; Liu, 2016; Rau, Gao & Wu, 2008). Also, MALL provides access to the contextualized and authentic target language for learners (Chinnery, 2006; Jee, 2011; Pincas, 2004; Rosell-Aguilar, 2007; Wang & Smith, 2013). Furthermore, in MALL, learners become autonomous in deciding upon where, when, and how to learn the target language, as it offers learning anywhere and anytime (Cheng, Hwang, Wu, Shadiev & Xi, 2010; Demmans Epp, 2016; Hung, 2011; Kukulska-Hulme, 2013; Liu, 2016; Sandberg et al., 2011; Sharples et al., 2005). Through collaborative practices MALL enables learners to engage with communicative activities with their peers and tutors which helps them develop their language proficiencies (Abdous, Facer & Yen, 2012; Attewell, 2005; Chinnery, 2006; Kim, Rueckert, Kim & Seo, 2013; Liu, 2016; Sole, Calic & Neijmann, 2010; Thornton & Hauser, 2005). Many researchers have stated that students' motivation in learning the target language increases thanks to MALL (Rau, Gao & Wu, 2008; Salman, 2014; Wang & Smith, 2013).

Kukulska-Hulme and Viberg (2018) reviewed the findings of MALL studies from 2012 to 2012 in terms of collaborative language learning. The findings of this qualitative review showed that the affordances of MALL include flexible and continuous use, timely feedback, personalization, socialization, peer coaching, active participation, self-evaluation, and cultural authentication. Furthermore, the findings also suggested that MALL provided diverse technologies that enable learners to choose from multiple media or create their media in various places. Social constructivism, task-based, seamless, situated, authentic, and contextual learning were found to be promoted in the reviewed studies. Also, the authors found out that MALL enhances problem-

solving skills, provides opportunities for comprehensive input, comprehensive output, noticing, negotiation of meaning, and feedback. In terms of affective factors, MALL has been found to increase motivation and curiosity among learners thanks to multimodal sensory touch screens and learner-centered activities. Giving homework through MALL was indicated as helpful in reducing the motivation barrier to start homework and increase learners' interest, willingness, and effort. Learners in MALL were found to be enjoyed, enthusiastic, engaged, and encouraged, and have positive attitudes. Finally, Kukulska-Hulme and Viberg (2018) identified that collaborative mobile learning reduced nervousness and embarrassment and increased self-confidence as the learners improved the sense of community by learning and belonging in a network.

The drawbacks that have been asserted in terms of the use of mobile devices in EFL learning and teaching are considerably fewer compared to its advantages. Thornton and Hauser (2002) pointed out the limited screen size of mobile devices as a disadvantage in language learning. However, as technology advances the screens become larger enough to eliminate this drawback. Also, while the screen size can be a barrier for some learners, it may not cause any problems for others as individual preferences play a major role in the selection and use of mobile devices (Stockwell, 2007). Issues in teacher-learner interaction such as student privacy (Kukulska-Hulme, 2010), identity (Kilmanova & Dembovskaya, 2013) and anxiety (Guo, 2012); fear of theft (Wong & Looi, 2010); distraction during courses due to its entertainment aspect (Hockly, 2013; Kukulska-Hulme & Shield, 2008; Öz, 2015); high cost (Hockly, 2013; Kukulska-Hulme & Shield, 2008; Öz, 2015) and limited battery life (Bayyurt, Erçetin & Karataş, 2014; Singh, 2010) are other drawbacks that have been stated in the literature. These studies on MALL focused mainly on vocabulary teaching, the usability of developed systems, perceptions and attitudes towards mobile assisted language learning and teaching grammar and writing as Duman et al., (2015) state in their paper, in which they reviewed related articles from 2004 to 2012.

The views of EFL teachers towards integrating mobile technologies into language teaching and the results of this integration have also been investigated by various researchers (Aygül, 2019; Inggita, Ivine & Saukah, 2019; Lee, 2019).

Lee (2019) investigated EFL and ESL teachers' and learners' perceptions towards integrating MALL into their lessons. Quantitative and qualitative data were collected in

mixed-method research design and a total of 259 participants took part in the quantitative data collection process. The interview was conducted with eight participants. The findings showed that both EFL and ESL teachers have positive attitudes towards MALL integration. The findings concerning the perceptions of EFL teachers demonstrated that MALL provides learning both outside and inside the classroom, supports the development of all four language skills, helps improve teaching and learning conditions, supports student-centered learning, increases learner participation and motivations, saves time and the visual learning helps comprehension. The teachers in the study suggested that both students and teachers should be supported technically and the Internet connection should be provided by the schools.

Another recent study was conducted by Aygül (2019), in which the EFL pre-service teachers' perceptions towards MALL based on their practices during their courses at the department were investigated. Data were collected through both quantitative and qualitative instruments. While 142 PSTs studying at various levels (freshmen to senior) and universities in Turkey participated in the quantitative data collection process, semi-structured interviews were implemented on 10 PSTs. The results of this study showed that Turkish EFL PSTs have moderately positive perceptions towards integrating MALL into their class at university. Furthermore, the participants of this study indicated that they used MALL applications most frequently for learning vocabulary and least frequently for developing their writing skills. The PSTs also indicated that integrating MALL improved immediacy, authenticity, interaction, ubiquity, joy, self-confidence, individuality, and ease of use. On the other hand, the PSTs stated some drawbacks concerning distraction, battery life, internet connection, lack of awareness of MALL, and lack of digital literacy skills.

Inggita, Ivine and Saukah (2019) conducted a study on three English language teachers working in senior high schools in Malang to find out their ways of integrating MALL and their perceptions towards implementing it into their lessons. Three out of twelve EFL teachers were chosen for the study as a result of a screening stage and these three teachers were observed to be the ones integrating MALL into their lessons. Data were gathered through multiple interviews and open-ended questions. Selected students from these schools were also integrated into the data collection process and interviews were implemented with these students to find out their opinions on access to mobile

devices, the way their teachers implement MALL in their lessons, their feelings, and expectations from MALL. The results showed that teachers found integrating MALL practical for the teaching/learning process since it eases to discover a great variety of information from the Internet for both teachers and students through their mobiles. The students also indicated that to be able to reach information from the internet made them feel more comfortable and supported. The findings also demonstrated that students felt more motivated and have positive perceptions towards using mobile devices for learning English. On the other hand, the participants indicated some drawbacks concerning internet connectivity and monitoring students during activities as they were distracted easily by other things on their mobile phones. Also, one of the teachers indicated that she had problems reading from the small screen.

The studies focusing on MALL generally investigated the effectiveness of mobile technologies with PSTs instead of implementing a training program on them (Baran, 2014). Such studies that implement professional development programs were found to be conducted only on in-service teachers (Baran, 2014). Moreover, these studies concerned with pre-service or in-service EFL teachers' perceptions were mostly pointed out the importance of receiving guidance on MALL integration (Al-Jarrah, Talafhah & Al-Jarrah, 2019; Hişmanoğlu, Ersan & Çolak, 2017; Öz, 2014; 2015).

Öz (2014) investigated how prospective English language teachers in Turkey use mobile devices in their learning process and how they would use these devices in their future lessons. Data were gathered from 144 ELT students studying at a state university. Data were gathered through a questionnaire consisting of twenty-one questions that aim to find out the PSTs' current ownership levels, usage areas, and purchase intent of mobile devices along with their perceptions of barriers to the use of mobile learning in their future language teaching experiences. Tablets, MP3 players, smartphones were found to be used in high frequencies by the participants. The results further revealed that these prospective teachers were willing to integrate mobile technologies into their future lessons. The highly stated barriers for implementing MALL were lack of training, lack of devices because of financial issues and administrative factors. The results of this study were only based on the views of PSTs in a hypothetical situation, as they were not asked to implement any MALL technologies in the classroom. Furthermore, the PSTs that participated in this study did not receive any training on how to implement MALL

in EFL lessons. Thus, the results are somewhat week for the interpretation of PSTs' actual views in MALL integration. On the other hand, even if the answers of the participants just rely on their future predictions, still they highlight the importance and necessity of training on MALL.

In his other study with EFL pre-service teachers, Öz (2015) investigated their perceptions towards MALL. The main aims of this study were to investigate the effects of GPA, grade level, and gender on the perceptions of EFL PSTs' perceptions towards MALL. A total of 201 participants studying in an ELT department at a stated university participated in this study. In this mixed-method study, quantitative data were collected through Mobile Learning Perception Scale developed by Uzunboylu and Özdamlı (2011), and qualitative data were collected through interviews and open-ended questions. The results of this study indicated that the overall perceptions of participants were high and GPA was the strongest predictor of the participants' perceptions of m-learning. The results of the quantitative data analysis showed that the participants were found to have positive attitudes towards integrating mobile technologies into their language learning processes due to its ubiquitous nature. The PSTs were found to be skeptical about being able to integrate MALL into their future lessons as they believed that their skills in technology integration would not be enough. Öz (2015) suggested that faculties should provide their students with the necessary knowledge and skills to enhance their abilities to integrate mobile technologies in the future. Similar to the findings of the researcher's previous study, the EFL PSTs in this study also highlighted the absence of guidance and indicated a need for a training program on mobile technology integration in teaching English.

Hişmanoğlu, Ersan & Çolak (2017) conducted a study on 50 EFL teachers working at a preparatory program in a state university to find out their perceptions on MALL. Data were collected through a questionnaire that aims to find out English teachers' use of mobile phones, social media, and instant messaging tools in their lessons and their acceptance of mobile phones. The results of this study demonstrated that those English teachers, who participated in this study, mainly had positive views on integrating MALL. The findings also showed that the level of MALL integration was low among participants and the most frequently used instant messaging tools were found to be Whatsapp and Facebook. In terms of their mobile phone acceptance, the

teachers were on the opinion that mobile phones help them enhance their vocabulary skills, but most of these participants were undecided on mobile phone acceptance in English language teaching. The results of this study demonstrate a discrepancy between teachers' willingness and their actual use of mobile technologies as they are inversely proportional. This result may also indicate a lack of knowledge on the ways to use MALL in their lessons.

Al-Jarrah, Talafhah and Al-Jarrah (2019) conducted a qualitative study to investigate the perceptions of ESL teachers on the use of mobile applications to help elementary school students enhance their language skills. Interviews were done with eight female in-service ESL teachers in Carbondale. The results showed that participants had positive perceptions regarding the use of educational mobile applications in learning English. Furthermore, according to participants of the study integrating mobile applications was useful in motivating students and increasing engagement among them. Also, the ESL teachers stated that these mobile applications provided multimodality by presenting different types of materials such as audio, video, photos, and text. The participants further indicated that mobile applications helped students multitask simultaneously, improved their retention rates. During the activities with educational mobile applications, teachers felt comfortable while they indicated some issues such as classroom management, lack of knowledge, and pedagogical practices. Finally, the participants of this study highlighted the need for professional training on technology integration specifically designed for ESL classrooms. Again, the results here show that although teachers find MALL useful in teaching English, they still need guidance on this integration.

All these studies conducted on MALL demonstrate that although both EFL learners and teachers are eager to use mobile tools and the implications with mobile technologies resulted in fruitful outcomes, there is still a need for professional guidance and training for EFL teachers as they mostly indicated to have lack of necessary skills for such an integration. Furthermore, the perspectives of EFL learners and teachers upon the use of recent technologies are important; thus, how they accept and use mobile technologies should also be taken into consideration for successful MALL lessons.

All these studies show that in addition to understanding how much prospective teachers accept mobile technologies, it is also necessary to guide them on how to

integrate these mobile devices into their lessons. In this respect, it is important to get the opinions of teacher candidates about integrating technology into technology lessons after experiencing the technology in real classroom environments. Thus, it will be possible to obtain a healthier understanding of the degree to which they have accepted technology use for future lessons and their perceptions on the integration of technology.

The literature in PST education on mobile technology integration has shown that the training process on technology integration should be systematic and base on a process including both theoretical knowledge and practical application. Considering the EFL PST education in the Turkish context, which does not offer any specific courses for PSTs to integrate multimodal mobile technologies into EFL teaching, the necessity for such guidance has become more important. Therefore, within the scope of this study, M-MALL teacher education model was developed and after this education model was applied to prospective teachers, they were asked to integrate M-MALL into their lessons in a real school environment. Considering the above-mentioned points, the opinions of the teacher candidates after these stages are considered to shed light on how pre-service teachers accept mobile technologies and what they think about the use of multimodal mobile technologies in language education. The next section contains detailed information about the M-MALL training model developed for this research and measurement tools and explains the current study in detail.

CHAPTER 3

3. METHOD

This chapter includes the information on the current study's design, participation and context, the training model designed and proposed on M-MALL teacher training, data collection instruments and procedure, and data analysis. This chapter also covers the pilot study done before the actual study to develop and check the validity and reliability of the data collection tools and instruments.

3.1. Research Design

This study is designed as Mixed Method Research. Quantitative data were collected using *Mobile Learning Perception Scale (MLPS)* to find out the general perceptions of EFL PSTs in a state university in Turkey on the integration of mobile technologies into learning and qualitative data were collected through data-led reflective diaries, training evaluation questions, lesson plans, and a semi-structured focus-group interview to find out the perceptions of EFL PSTs on integrating multimodal mobile applications into their teaching experience during teaching practice.

3.2. Participants and the Context

A total of 16 PSTs studying in an English Language Teaching Department at a state university in Turkey participated in this study. In the context of the study, various methodology courses on teaching are offered to the participants throughout this four-year training program. These courses included subjects like ELT methodologies and approaches, linguistics, teaching English to young learners and measurement and evaluation that prepare PSTs for the profession by micro-teaching experiences. These micro-teaching experiences help them develop course objectives, write lesson plans, devise and implement activities accordingly. Among all those methodology courses, there are no courses on the integration of mobile and computer technologies into English language teaching from which PSTs can benefit to enhance their courses with technology use. After taking these courses, in the fourth year, the PSTs take a School Experience course in the fall term and a Teaching Practice course in the spring term. In the School Experience course, PSTs are assigned weekly tasks based on observation of various aspects of the teaching and learning process such as school management,

classroom management, language teaching, the relationship between the school, students, and families, the dynamics in a language class and measurement and evaluation processes, which is considered a preparation process for their actual teaching experiences for the Teaching Practice course offered in the next term. In this School Experience course, the PSTs are only expected to observe these issues and no actual teaching experience is required from PSTs. The supervisors of the PSTs at university collect their weekly assigned tasks and they grade them. In groups of four, the PSTs are assigned to state schools in which a cooperating teacher at the school guides them. The state schools in the research context vary from primary school to high school. For this study, participants were chosen among the PSTs who were assigned to high schools, since the smartphone ownership rate among high school students is higher than the lower grades and these students are more familiar with smartphones as they use them in their daily lives for various things. Therefore, it was easier for PSTs to integrate M-MALL in their lessons.

In the Teaching Practice course, the PSTs continue with their assigned mentors in the same state schools and with the same group of peers and practice their teaching skills that they have acquired so far from their theoretical and practical courses in actual teaching contexts. A total of 72 hours of participation is required for PSTs throughout the term and during their participation, they are expected to complete tasks based on observation and obtaining information from the teachers and the school directors each week. These tasks include topics such as getting information about the school organization, evaluation, and assessment procedures at the school and after completion PSTs hand in their weekly tasks to their advisor professors at the faculty. Apart from these tasks, PSTs are expected to prepare four lesson plans to be implemented in the English lessons they participate in. These lesson plans are based on language skills and areas based on the curriculum to be administered each week at the school and assigned by the mentor English teacher to the PSTs to be covered. The prepared lesson plans are reviewed by PSTs advisor professors and feedback for the lesson plans is given. PSTs are free to include various activities to cover the assigned topics and language items. According to the Council of Higher Education in Turkey, PSTs are required to teach 4 hours in total throughout a semester. PSTs are always observed by their peers and the cooperating teachers of the classes. Faculty professors also observe one or two lessons

of PSTs depending on their workload at the faculty. Both the mentor teachers and advisor professors evaluate PSTs lessons covered at their training schools. The computing system of The Turkish Ministry of Education (Mebbis) is used to evaluate and grade the performances of PSTs.

PSTs were asked to sign this a consent form (see Appendix-1) prior to the study. Participants were assured about the confidentiality of their participation and the collection of data. PSTs were also ensured that they can withdraw anytime from the study because active and collaborative participation was required for this study.

3.3. Implementation of a Training on Multimodal Mobile Assisted Language Learning (M-MALL)

A training model on Multimodal Mobile Assisted Language Learning for pre-service teachers has been developed by the researcher based on the materials tested in the pilot study. According to Sol (2018) a model for training EFL teachers to help them integrate technology into teaching English should include stages of exploration, communication, collaboration and reflection. In this light, this model consisted of steps in which the participants were provided opportunities to perform the stages proposed in Sol (2018)'s ECCR (see section 2.1.1. for the details of the model) model. Furthermore, the concepts in socio-cultural view which needs to be taken into consideration during this training process such as 'Needs Audit' (Bax, 2011) and knowledge transfer (Torsani, 2016) were integrated into the tasks of M-MALL training model. Each step of the model along with the materials used has been overviewed and checked by five highly experienced researchers from the fields of English Language Teaching and Computer and Instructional Technologies. The training model consists of 6 stages: (1) background activation, (2) awareness-raising, (3) modelling, (4) medium transfer, (5) problem identification, and (6) micro-teaching. The figure of M-MALL Teacher Training Model is presented in Figure 3.1.

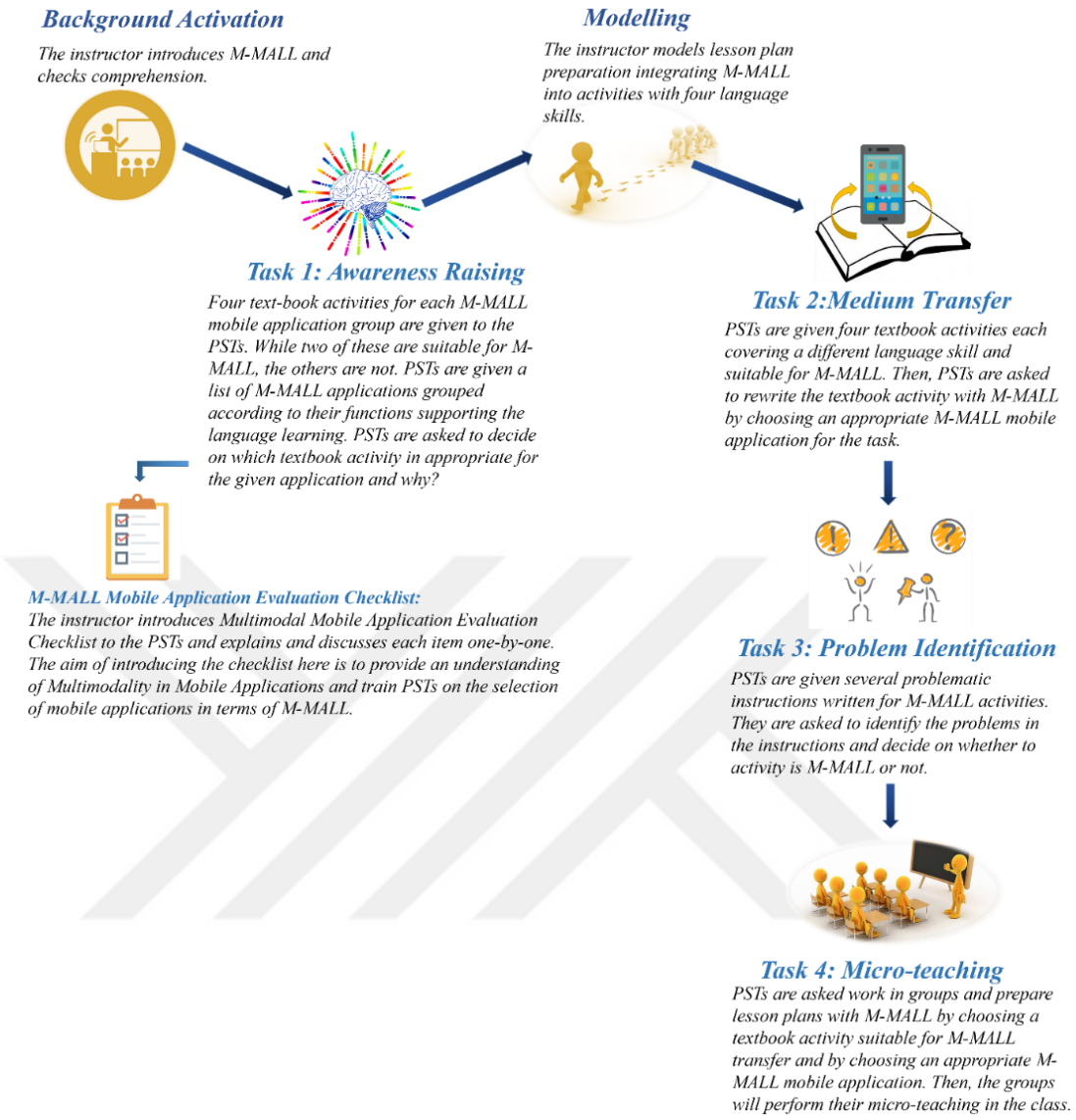


Figure 3. 1. *M-MALL Teacher Training Model*

This training model was based on The UTAUT Model on technology acceptance (see section 2.3. for the details of the model). The stages and tasks in this M-MALL teacher training model aim to enhance EFL PSTs' perceived level of expectation that using M-MALL will enable them to accomplish their teaching goals or improve their teaching, their perceived level of expectation about how easy or difficult using M-MALL will be in teaching English, the impact of others (peers, supervisor) on EFL PSTs' decisions to use M-MALL, and their perceptions of their Teaching Practice Schools' infrastructural support for the use of M-MALL. The following sections further explains the steps of this PST training model on M-MALL.

3.3.1. Background activation

The researcher presented the topics of Multimodality and Mobile Assisted Language Learning through a Multimodal mobile application called Thinglink. The general framework of the Thinglink page prepared and used in this study is presented in Figure 3.2 below.

Figure 3. 2. *The Thinglink Page Prepared and Used in This Study*

Thinglink enables its users to present content on one page by embedding related information through various modes such as audio, video, or text. In this way, the presenter can switch between the topics easily by connecting the links s/he wanted to present on one page. A part of the content displayed through these links at this stage is given in figure 3.3 below.

Figure 3. 3. *A part of the content displayed at this stage*

As seen in Figure 3.3, the background was activated through various modes and QR code was used to enable the PSTs to connect the task at the end of this stage. In background activation, PSTs were presented with the definitions of MALL and Multimodality and their significance in language learning and teaching. The researcher explained the current situation in foreign language teaching and highlighted the strengths and weaknesses that can be encountered in teaching a foreign language through mobile technologies. Furthermore, PSTs were informed about various modes and these modes were exemplified for them to better comprehend the concept of multimodality. At the end of this stage, a flashcard game code in *Cram* application was given through a QR code to the PSTs to reinforce their knowledge on M-MALL. The screenshot of the matching game is presented in Figure 3.4 below.

Figure 3. 4. *The matching flashcard game for reinforcing M-MALL knowledge*

Cram application enables teachers and learners to prepare their own flashcards and the users can practice these flashcards by playing the game *Jewels of Wisdom* offered by *Cram* application. In this matching game, PSTs were asked to scan the QR code and match the concepts presented in the background activation stage with their meanings. One of the advantages of this task is that PSTs can reach the link whenever they want and practice their knowledge on M-MALL. After completing this stage. PSTs were given their first task: Awareness Raising, which is the next step of M-MALL Teacher Training Model.

3.3.2. Awareness-raising

The researcher introduced Multimodal Mobile Application Evaluation Checklist to the PSTs and explained and discussed each item one-by-one. Criteria for selecting multimodal mobile applications were prepared by the researcher based on research findings in the field and presented to three experts from the field. Based on these criteria the researcher prepared The M-MALL Smartphone Application Evaluation Checklist consisting of 21 items. The first four items in this checklist include the criteria for multimodality such as including image, speech. The next seven items include criteria for classroom implementation such as allowing group work, collaboration, feedback, and so on. The last 10 items in the checklist aim to evaluate the existence of necessary features such as being cost-free, easy to reach, popular, and up-to-date. The checklist is given in Figure 3.5 below.

M-MALL Mobile Application Evaluation Checklist

Name of the multimodal mobile application:

The Multimodal Mobile Application I select;

1. includes image	□
2. includes writing	□
3. includes speech	□
4. includes animation	□
5. allows content interactivity	□
6. allows group work	□
7. allows individualized experience	□
8. allows confidentiality of assessment results	□
9. allows feedback	□
10. allows communication and collaboration with peers	□
11. allows communication and collaboration with teachers	□
12. allows creating and	□
13. allows sharing documents	□
14. is motivating	□
15. provides continuous access	□
16. is free	□
17. is up-to-date	□
18. is popular in terms of download rate	□
19. is popular in terms of average rating	□
20. is popular in terms of users' comments	□
21. enables experience in different platforms (downloaded, web-based)	□

Figure 3. 5. *M-MALL Mobile Application Evaluation Checklist*

The evaluators are expected to put a tick next to each item if that item exists in the M-MALL Smartphone Application that is going to be used in the lesson. This evaluation checklist aims to guide PSTs in their choice of smartphone applications. The more the items are met in the chosen smartphone application, the application will more likely to be multimodal and suitable for M-MALL. The aim of introducing the checklist here was to provide an understanding of Multimodality in Mobile Applications and to train PSTs on the selection of mobile applications in terms of M-MALL. The PSTs were given two M-MALL mobile applications and asked to evaluate the applications using the list. In-class discussions were held upon the choices of PSTs on the evaluation checklist.

After introducing the Multimodal Mobile Application Evaluation Checklist, the instructor introduced seven groups of M-MALL mobile applications: video-based tools, visual sketching and note-taking tools, mind-mapping tools, interactive smartboard

tools, augmented reality tools, online classroom tools, and quiz tools with some example applications for each type of tool (see Figure 3.6 below). These applications were all grouped according to the features that they provide for both teachers and students. Also, the language skills that they address were taken into consideration in classification.

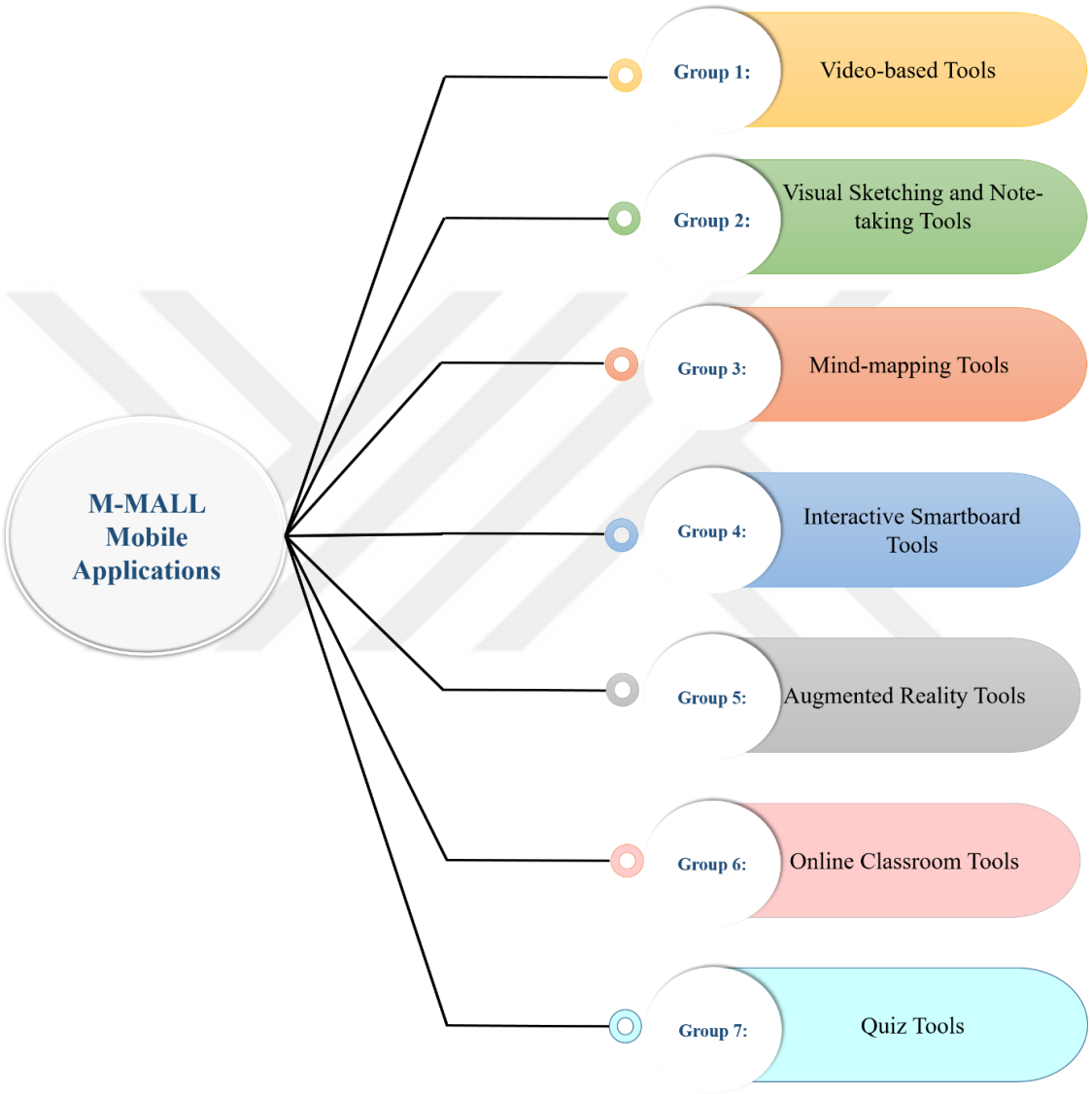


Figure 3. 6. *The groups of M-MALL mobile applications*

Video-based Tools enable the users to record voice or video and share with others in the classroom. Users can comment on the content either by writing, voice or video. These tools can be used to enhance students' speaking and listening skills. They provide a motivating environment for students and allow individual feedback for shares

both from the teacher and peers. *Visual Sketching and Note-taking Tools* can be used to develop writing skills in a collaborative and multimodal way. As common features, they all allow users to add multimedia to their writings to enhance comprehensibility for the reader. Teachers can use these applications to ask their students to prepare posters or cards. Furthermore, paragraphs that include steps or a process can be explained best with the audio-visuals in these tools. *Mind-mapping Tools* help their users to prepare multimodal mind maps collaboratively. Furthermore, these multimodal mind-map applications allow users to add links, pictures, videos, or long texts apart from just phrases or sentences written on the branches. Teachers can use these tools as warm-up or follow-up activities for all language skills. *Interactive Smartboard Tools* are designed as interactive smartboards and can be used with or without smartboards in the classroom. These applications are highly interactive and trigger collaboration in the classroom. They can be used with reading and writing skills mainly. Other skills can be embedded into the activities designed in these platforms. *Augmented Reality Tools* require scanning barcodes or images in order to reach the link embedded. They provide augmented reality for their users and the links can include text, image, audio, and videos. These M-MALL applications can be used for receptive language skills as users can browse the links provided by the embedded barcodes and retrieve necessary information either by listening, watching, or reading. Moreover, students can also create augmented reality barcodes by using these tools and enhance their productive language skills as well. *Online Classroom Tools* provide teachers to constitute online classroom environments in which teachers can assign tasks to the whole class at the same time and give individual feedback. *Quiz Tools* are not directly used for a single skill but enable teachers to prepare online tests. If prepared in a multimodal sense such as using various sources like videos, images or audios in the question root, these applications can be used for comprehension checks for receptive skills. Applications that suit the definition and criteria of M-MALL mobile applications are presented as examples for each group of tools in Figure 3.7 below.

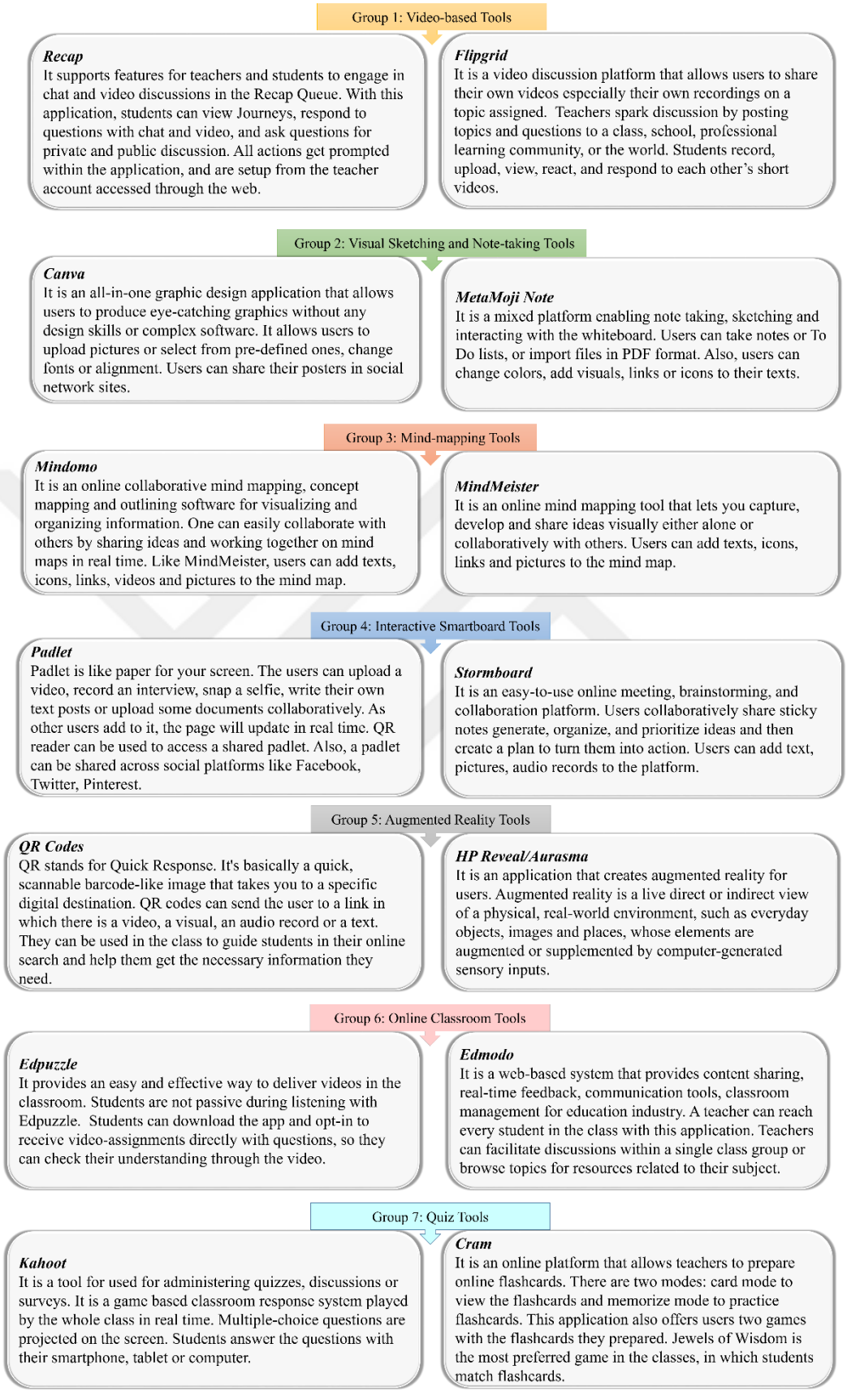


Figure 3. 7. *Sample M-MALL mobile applications for each group of tools*

After completing the introduction of M-MALL tools, the instructor gave PSTs four textbook activities for each type of tool to be applied and asked PSTs to read the activities and decide on which activity was suitable for M-MALL transfer with the given M-MALL mobile applications. Class discussions were held for each type of M-MALL mobile application tools. A sample awareness-raising task prepared for Online Classroom Tools is demonstrated in Figure 3.8 below. In this sample task, the PSTs were expected to read the instructions of the given activities and by considering *Online Classroom Tools* such as *Edmodo* or *Edpuzzle* they were expected to choose the appropriate activity suitable for M-MALL transfer. Textbook Activity 1 in this task is the appropriate activity in this task.

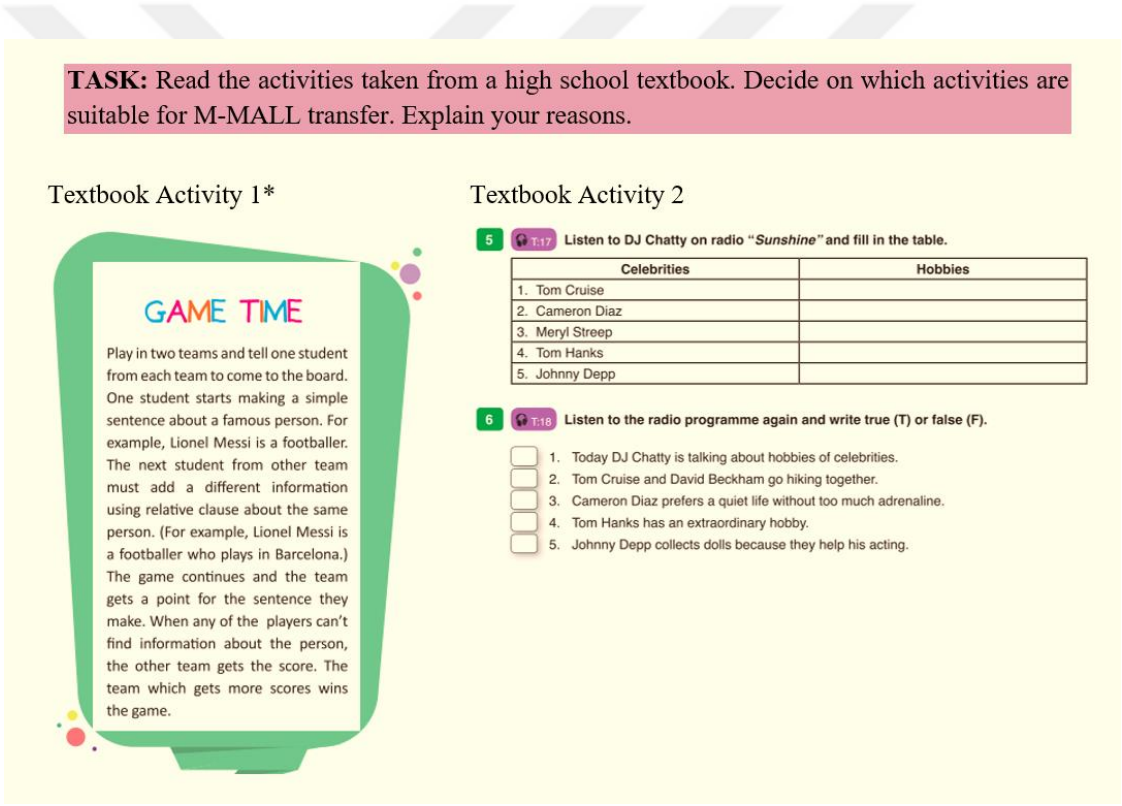


Figure 3. 8. *A Sample Awareness Raising Task*

If someone wants to include M-MALL with a specific textbook activity, s/he can do it. However, what is important here is that transferring the medium from a textbook task to a M-MALL task needs to be reasonable in terms of practicality, time-management, and cost. In other words, if dealing with an M-MALL activity is time-consuming and requires extra unnecessary effort, while using the textbook activity is

leading more fruitful results, there is no need to integrate M-MALL. In the sample task given above, the second task can also be transferred to M-MALL; however, the listening activity already enables learners to simply listen and fill in the necessary information. This activity does not require any extra effort to be transferred to M-MALL to be more comprehensive or collaborative. Therefore, it is not appropriate for M-MALL. On the other hand, if a textbook activity 'appropriate' for M-MALL, i.e. it requires internet search, dealing with several modes at a time for making meaning, collaboration, and active participation, and will become more motivating for the students after the integration, then PSTs should consider a suitable M-MALL mobile application. Therefore, raising PSTs awareness on which textbook activity is 'appropriate' is quite significant in this training process.

3.3.3. Modelling

Mental modelling is a teaching technique in which the learners are informed about the reasoning processes that lie behind preparing a M-MALL lesson plan. The aim here is to show 'novice' PSTs how to select an appropriate textbook activity to transfer into M-MALL, how to select a suitable M-MALL mobile application, and how to write activities with M-MALL in a lesson plan by thinking aloud and negotiating for meaning through this process. Therefore, the PST can get a glimpse into the mind of the instructor and can imitate the process. Although modelling generally refers to a staging of a physical act, mental modelling refers to an act which is invisible and functions as explaining and predicting the logical reasoning behind this invisible discourse and behavior (Haili, Maknun & Siahaan, 2017). The intention of the instructor is made explicit to the PSTs through modelling the mental process and consequently, the process is less likely to be misinterpreted by the PSTs.

In this mental modelling technique, the instructor asked questions to PSTs and involved them in this modelling process. The process of mental modelling for M-MALL lesson plan preparation included the following stages:

- Reviewing a high school textbook, thinking aloud and asking PSTs opinions while selecting an appropriate activity which can be transferred into M-MALL
- Thinking aloud and negotiating with PSTs on which M-MALL mobile application to be selected for the chosen activity

- Asking questions to PSTs on how and where (warm-up, main, follow up) to integrate the selected M-MALL mobile application and thinking aloud while identifying the stage that M-MALL is going to be used
- Negotiating and identifying the aims, learning outcomes, anticipated problems, and possible solutions of the selected M-MALL application for teaching

At the end of these stages, the instructor asked PSTs to write a reflection on each mental modelling process with four skills by answering the following guidance questions:

1. How did the instructor identify the textbook activity which can be transferred to an M-MALL activity?
2. How did the instructor choose an appropriate M-MALL mobile application for the selected activity?
3. How did the instructor identify how and where (warm-up, main, follow up) to integrate the selected M-MALL mobile application?
4. How did the instructor identify the aims, learning outcomes, anticipated problems, and possible solutions?

Lesson plans with M-MALL were prepared for each language skill by selecting an appropriate high school textbook activity. The lesson plans modelled in the training process are given in M-MALL Training Model Booklet (see Appendix-2). The Sample reflection tasks of PSTs after Modelling in M-MALL Training are given in Appendix-3.

3.3.4. Medium transfer

It is quite important for PSTs to be able to choose an appropriate M-MALL mobile application to be used with an M-MALL activity. A wrong choice may affect the whole activity as well as the expected outcomes. Therefore, after an awareness-raising activity for the identification of a transferable textbook activity into M-MALL, it is necessary for PSTs to practice the identification and selection of an appropriate M-MALL mobile application, so the textbook medium will be transferred into an M-MALL medium. A sample medium transfer activity is demonstrated in Figure 3.9 below.

Sample Activity:

Instruction: You have four activities each of them including a language skill from a high school textbook prepared by Turkish Ministry of Education. Revise the activity and integrate an appropriate M-MALL mobile application. Rewrite the activity with the instructions and tasks appropriate to the ideas of M-MALL.

8 a. **Fill in the chart with your summer plans. Write two activities for each month.**
What will you be doing in ...?

June	
July	
August	

b. **Work in pairs. Talk to your partner about your plans.**

- What are you going to do?
- Will you be doing something exciting / frightening / relaxing / tiring?
- Will you be travelling, staying at home or working?
- Who will you be with?
- Do you think you'll have a good time?

Possible Revision:
8a will be the same. For 8b the teacher can prepare a *Flipgrid* task and open a *Flipgrid* classroom for the students. (Assumption: students know how to use *Flipgrid*)

Instruction:
8b. Join the *Flipgrid* classroom and record a video of yourself by answering the questions. Talk about your summer plans.
8c. Watch your friends' videos on summer plans and comment on the plans you like.

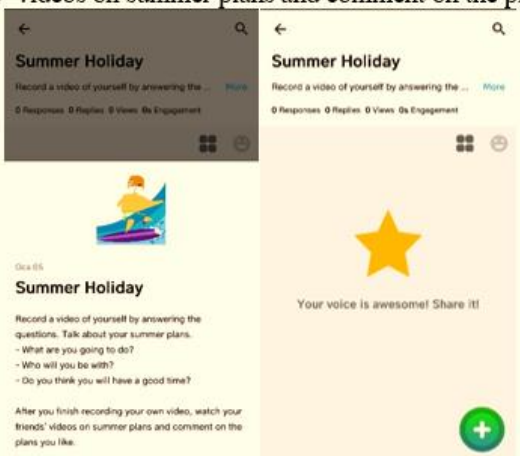


Figure 3. 9. *A sample medium transfer task*

PSTs were given four activities each of them including a language skill from a high school textbook prepared by The Turkish Ministry of Education. They were expected to revise the activity and integrate an appropriate M-MALL mobile application by evaluating the chosen application with the Multimodal Mobile Application Evaluation Checklist. Also, the PSTs were asked to rewrite the activity with the instructions and tasks appropriate to the ideas of M-MALL.

3.3.5. Problem identification

PSTs sometimes choose an 'appropriate' textbook activity and a suitable M-MALL mobile application. On the other hand, the design of an activity can be problematic and they may not explain the M-MALL activity thoroughly to the students. For this reason, the instructor presented the 'real' problems via the instructions of PSTs taken from their lesson plans in the pilot study. Some of the activities given in the table were not problematic in terms of reflecting the spirit of an M-MALL activity; however, the others had problems. PSTs were asked to identify whether the activities were M-MALL or not, and if not, they were expected to state what the problems were. A sample from the problem identification task is presented in table 3.10 below.

Task: Read the instructions for some activities stated in the table. Decide on whether that activity is an M-MALL activity or not by putting a tick on the column of your choice. State the problem/reason, if the activity is not M-MALL. Assume that each application is explained to the students with an example and they know how the applications work. The activity instructions with an asterisk (*) are the problematic ones, and the problem is highlighted.

Instructions	M-MALL	NOT M-MALL	Problem/Reason
* Open Edmodo on your mobile phones and join the online class with the given password. Read the passage about *Weird Traditions All Around the World* and answer the **multiple choice questions asking the information given in the text** on Edmodo.			
Open Stormboard application and join the class project. Work in groups and find an interesting news online. Gather information about the news and find some related pictures and videos. Each column in the Stormboard class project belongs to a group in the class. Design your column using the date you gathered about the news and report the news on your column.			

Figure 3. 10. *A sample problem identification task*

PSTs read the instructions for some activities stated in the table and decided on whether that activity was an M-MALL activity or not by putting a tick on the column of

their choice. They were asked to state the problem/reason, if the activity was not M-MALL. They were expected to assume that each application is explained to the students with an example and the students know how the applications work.

3.3.6. Micro-teaching

As the last task of the M-MALL Training Model, the PSTs were asked to work in groups and choose a textbook activity 'appropriate" for M-MALL integration. They were required to use the M-MALL Mobile Application Evaluation Checklist and choose a suitable M-MALL mobile application for the activity they choose from the textbook. They were expected to write a lesson plan using the template (see Appendix-2) given to them and presented their lessons in front of the training class as a micro-teaching activity. During their micro-teaching presentations, the PSTs covered warm-up, main and follow-up activities designed for covering a language skill with M-MALL. Each group was assigned one language skill to be covered in their micro-teaching sessions. They were free to choose a mobile application but asked to evaluate the chosen application with M-MALL Mobile Application Evaluation Checklist. The PSTs received feedback from the research prior to the micro-teaching sessions and revised their plans according to the feedback. The micro-teaching sessions lasted 20 minutes and after each session, the PSTs received oral feedback from their peers and the researcher. PSTs were asked to take notes during micro-teaching upon the strengths and weaknesses of these micro-lessons and 20-minute in-class discussions were held after each session to evaluate the M-MALL integration in these micro-teaching lessons.

After completing the eight-week-training process on M-MALL, the researcher asked participants to answer the following questions in Turkish after the training session in order to evaluate the effectiveness of the training sessions (see Appendix-4) for sample reflections of PSTs):

1. What do you think about using M-MALL mobile applications in teaching English for two weeks?
2. Evaluate the use of M-MALL mobile applications in teaching English in terms of content and materials used.

3.4. Data Collection and Instruments

3.4.1. Instruments

Data was collected through both quantitative and qualitative instruments. Mobile Learning Perception Scale was conducted to gather quantitative data and training evaluation questions, data-led reflective diaries and semi-structured focus group interview were implemented to retrieve qualitative data. The application to the institutional review board for the research ethics approval of the present study was submitted, and the permission was granted (see Appendix-5). Each of the data collection instruments is presented in detail in the following sections.

3.4.1.1. Mobile learning perception scale (MLPS)

In order to find out the general perceptions of ELT PSTs in a state university in Turkey Mobile Learning Perception Scale (MLPS) developed by Uzunboylu and Özdamlı (2011) (see Appendix-6) was implemented. The aim of this scale was to find out secondary school teachers' perceptions towards mobile learning regardless of branch. The scale consists of 26 statements to measure the participants' perceptions of M-learning. These items aim to identify the teachers' perceptions towards various factors in mobile learning such as teacher-student and student-student interaction, the effectiveness of mobile tools, opportunities provided by mobile tools (e.g. ubiquity), reliability and effectivity in supporting existing learning environments, and willingness to use mobile tools. The participants rate the statements on a 5-point (ranging from 1. strongly disagree to 5. strongly agree) Likert scale. The points that are given to the scale range from 26 to 130. Point means of mobile learning perception scale were explained in 3-point range as low (=26-60), average (=61-95), and high (=96-130). High points show positive mobile learning perception and low points show negative mobile learning perception.

The scale was used both at the beginning and at the end of the study to investigate the difference in EFL PSTs' perceptions towards M-Learning. In order to use this scale with EFL PSTs in the study, this scale was piloted with 108 PSTs studying in ELT departments from randomly chosen universities in Turkey. The Cronbach Alpha coefficient of the original scale developed by Uzunboylu and Özdamlı (2011) was

determined as α =.97. In order to use this scale in the research context of this study a further reliability analysis was conducted and the Cronbach Alpha coefficient was determined as α =.870 for the whole scale. This result shows that the reliability of the overall scale was quite high and the items for this context are reliable.

3.4.1.2. Data-led reflective diaries

In their four-week actual teaching experience in assigned high schools for their *Teaching Practice* course, PSTs were asked to write a total of 254 reflections, 180 of which were for their peers and 74 of which were for their own lessons (see Appendix-9). Participants wrote reflective diaries upon their experience in order to identify their perceptions for M-MALL applications via the use of smartphones on two occasions:

1. for each of their lessons at training schools they carried out using M-MALL,
2. for each of the lessons at training schools their peers carried out using M-MALL (as observers)

PSTs' lessons were video recorded and they reflected on their lessons after the implementation of a lesson plan by watching themselves from the video recordings. In this way, data-led reflection was achieved as Walsh and Mann (2015) state "A more data-led treatment of Reflective Practice will help in achieving a greater understanding of professional practice". In other words, PSTs wrote their reflections not depending on what they remember from the lessons, but going to that very moment while watching each lesson covered with M-MALL.

Guidance questions were given to the PSTs in order to focus their thoughts on M-MALL implementation and elicit all their thoughts and emotions while writing their reflections on M-MALL integrated lessons. Both the questions and the reflections were in participants' native language in order not to create anxiety stemming from language limitations, and to make them feel relaxed and intimate in their responses. The questions were prepared, piloted, and reviewed by two experts from the field (see Appendix-8).

3.4.1.3. Semi-structured focus group interview

Following the completion of the study, randomly selected four participants were interviewed through a focus-group interview. Rather than one to one interviews, a focus-group interview process was chosen for the study since this process was

advantageous when the interaction among respondents provided the best information, and when they were similar to and cooperated (Creswell, 2005). PSTs in this study observed their peers in groups and worked cooperatively both in the training sessions and in the actual teaching experience. Therefore, a focus-group interview was suitable to use in this study. General, open-ended questions were asked in the interview in order to detect any changes in their reflectivity (see Appendix-10). These questions aimed to elicit their views on the overall process they went through in training and their actual teaching experiences and integrating M-MALL in teaching English in general. Furthermore, the participants' experiences with M-MALL in pre-, while and post processes of the lesson were asked. Lastly, their views on integrating M-MALL in their future lessons were inquired. Expert opinion was taken to ensure the reliability of the questions.

Participants were allowed to interact with each other and comment on each other's responses based on their experience in M-MALL. Similar to the reflective diaries, the interview was conducted in participants' native language in order not to create anxiety stemming from language limitations, and to make them feel relaxed and intimate in their responses. The focused group interview was videotaped and transcribed (see Appendix-11).

3.4.2. Data collection procedure

The data collection procedure lasted 12 weeks. In the first eight weeks, PSTs received the training on M-MALL and in the last four weeks, PSTs integrated M-MALL into their actual teaching experiences in their training schools. At the first stage of the data collection process, the consent forms were gathered and Mobile Learning Perception Scale Data was administered to the participants. Later, the steps of the Model of M-MALL training were carried out by 16 PSTs participated in the study throughout eight weeks. After the training process on M-MALL, participants were asked to prepare lesson plans (see Appendix-7) and implement what they had learned from the training in their courses in *Teaching Experience* and integrate M-MALL into their teaching. During their lessons with M-MALL, PSTs were video-recorded and asked to write data-led reflective diaries both for their own lessons and their peers' lessons. At the end of their teaching experiences with M-MALL, participants were

given Mobile Learning Perception Scale as a post-test and a semi-structured focus group interview was conducted. The data collection procedure is presented step by step in Figure 3.1.

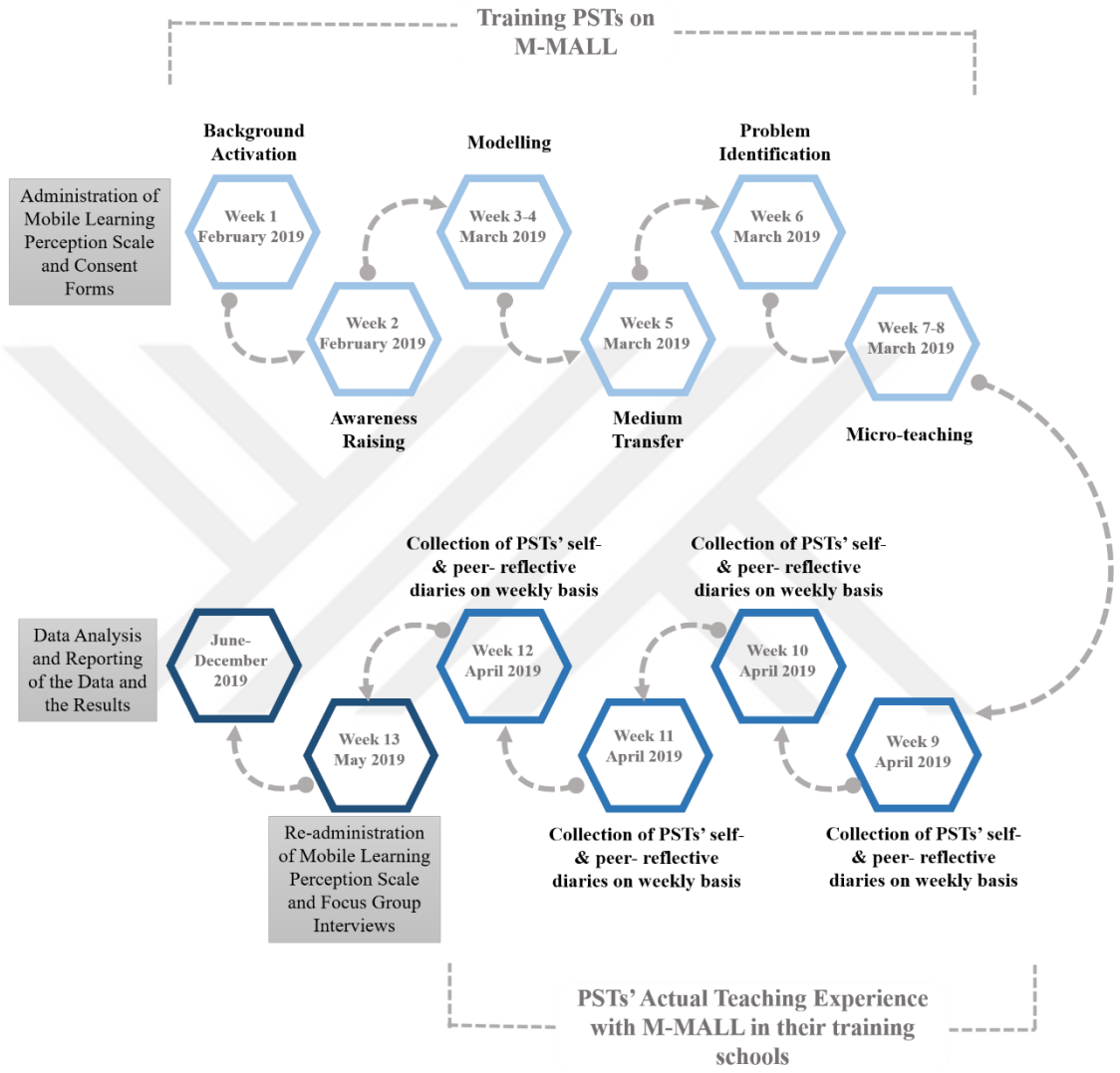


Figure 3. 11. *The procedure of data collection and analysis in the main study*

PSTs were asked to write their reflections on one of the word processing programs and send them to the researcher via e-mail each week. Electronically collected reflections were stored in a file and uploaded to Nvivo for qualitative data analysis. On the other hand, the printed form of MLPS was distributed to the participants in pre and post-tests, and collected data were entered into SPSS. The focus group interview was recorded by the researcher and stored electronically in a file. The interview was

transcribed to one of the word processing programs and uploaded to Nvivo for data analysis.

3.5. Data Analysis

Data gathered from various data collection instruments were analyzed both quantitatively and qualitatively. The data analysis procedures followed for each data collection instrument are presented in Table 3.1. The detailed information is presented in the following sections for each instrument.

Table 3. 1. *Research instruments and data analysis procedures*

Instruments	Data Analysis Procedures
Mobile Learning Perception Scale	Low (negative) level mobile learning perception = 26-60 Average level mobile learning perception = 61-95 High (positive) level mobile learning perception = 96-130 To see whether training on M-MALL made any difference on PSTs' levels of mobile learning Paired Samples T-Test was computed.
Reflective Diaries	To find out the perceptions on M-MALL training and the perceptions on M-MALL in teaching practice, reflective diaries written at the end of an 8-week-training period and data-led reflective diaries written weekly for teaching experience with M-MALL were analyzed. Constant Comparison Method was applied by the researcher to identify the main and sub-themes. The levels were analyzed by the researcher and 10% of the data were analyzed by another researcher from the field. Inter-rater reliability was measured and quotations were excerpted.
Focus-group Interview	Constant Comparison Method was applied. Codes were added to the data regarding the perceptions of the participants about M-MALL experience. Inter-rater reliability was measured and quotations were excerpted.

3.5.1. Mobile learning perception scale

Quantitative data were collected through M-Learning Perception Scale (Uzunboylu & Özdamlı 2011). The scale was administered to the participants before and after the 12-week M-MALL training process as pre- and post-tests in order answer the first research question, which aims to elicit any changes in EFL PSTs' perceptions towards mobile learning after the process of training followed by actual teaching experience with M-MALL via smartphone applications. SPSS package program was

used for the analysis of the data. In order to test whether the data has a normal distribution, Kolmogorov-Smirnov test was administered and the results revealed that the data had normal distribution ($p>.05$). Paired Samples T-test was used for interpretation of the research data. Cohen's d effect size was calculated for the tests if the differences between the groups or variables were significant. For the effect size, Cohen's d values were determined as follows: .20 as small, .50 as medium, and .80 as large (Cohen, 1988; Rosenthal, & Rosnow, 1991). The reliability analysis results revealed that the scale had high reliability (Cronbach's Alpha=.87).

3.5.2. Reflective diaries

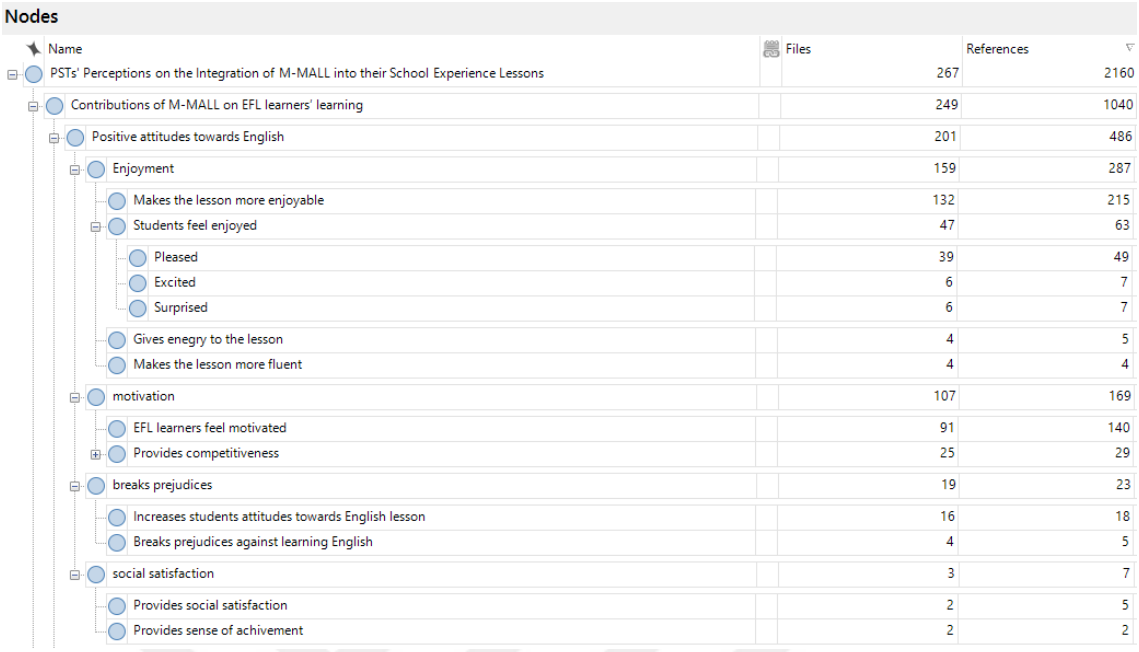
The participants in this study wrote one reflective diary after the completion of the training they received and weekly reflective diaries on their own and peers' teaching experiences with M-MALL in *Teaching Practice*. The techniques used in the analysis of this data depended on the foundations of the Grounded Theory approach which focuses on examining the concepts grounded in the data to develop an explanatory theory for the social processes (Starks & Brown Trinidad, 2007). However, the aim of this current study is not to come up with a theory but to examine the underlying concepts grounded in the data to better understand the perceptions of PSTs on M-MALL. As this study aimed to understand the perceptions of EFL PSTs on M-MALL training and integration, the concepts of analysis in the Grounded Theory approach were adopted. Thus, the researcher could understand the underlying patterns and relationships concerning the participants' perspectives towards the training and the integration processes.

Constant Comparative Method (CCM)–an analysis method based on Grounded Theory Research- was used in the analysis of the data which allows the use of actual data to form categories to reach a theory instead of referring to preexisting categories (Corbin & Strauss, 2015). The use of this method was appropriate for this study since the aim of the researcher was to reach a theory of PST perceptions on M-MALL training and M-MALL integration in EFL learning based on reflections and views. The CCM includes four stages: (1) coding and comparing incidents applicable for each category, (2) integrating categories and their properties, (3) delimiting the theory, and (4) writing the theory (Glaser, 1965 p. 439). In this method, the analyst starts with coding each incident that reflects participants' perceptions on M-MALL training and M-

MALL integration in their teaching practices. Then, similar incidents coded are gathered together into categories by constantly comparing and contrasting. This comparison goes from a comparison of incident- incident to category-category level, and *"diverse properties of the categories start to become integrated"* (Glaser, 1965, p. 440). Later on, the analyst continues with pairing off irrelevant properties, merging relevant details of properties into major inter-related categories and does reduction. In reduction, the original set of categories occur to the analyst. As the last step, the major themes emerge providing the content behind the categories.

In order to explore the perceptions of the participants on M-MALL training and M-MALL experience, the researcher analyzed the data gathered from reflective diaries based on the premises of CCM. Codes gathered from focus-group interview were also combined with the codes emerged from reflective diaries. The properties of categories including these codes were constantly compared and contrasted with each other to determine similar ideas until all similar categories were grouped. These groups formed sub-themes that have similar category properties. From the sub-themes main themes were formed. The themes that emerged from this data analysis were used to put forward the perceptions of PSTs on M-MALL training and M-MALL experience.

NVIVO 12 (a qualitative data analysis software) was used in coding and analyzing the quantitative data. Electronically collected reflective diaries were uploaded on NVivo. In NVivo, coding is stored in 'nodes', which can be considered as 'flexible containers' (Edhlund & McDougall, 2019). The term node can refer to a terminal point in a branching network from which concepts branch out into a network of subconcepts (Jackson, & Bazeley, 2019). As Jackson and Bazeley (2019, p. 75) state "in NVivo, you make a node for each topic or concept to be stored, much like designating a hanging file for the cut-up photocopies in a manual system. What NVivo keeps there, however, are not actual segments of data, but references to the exact location of the text you coded in the source document." Firstly, the researcher uses nodes to store coding and in this step, the relationships or connections are not presumed. Then, these nodes can be used for organizing and moving into a tree structure in which they represent sub-categories (Jackson, & Bazeley, 2019). A sample screenshot from NVivo analysis in this study is presented in Figure 3.12 below.



Nodes

Name	Files	References
PSTs' Perceptions on the Integration of M-MALL into their School Experience Lessons	267	2160
Contributions of M-MALL on EFL learners' learning	249	1040
Positive attitudes towards English	201	486
Enjoyment	159	287
Makes the lesson more enjoyable	132	215
Students feel enjoyed	47	63
Pleased	39	49
Excited	6	7
Surprised	6	7
Gives enegry to the lesson	4	5
Makes the lesson more fluent	4	4
motivation	107	169
EFL learners feel motivated	91	140
Provides competitiveness	25	29
breaks prejudices	19	23
Increases students attitudes towards English lesson	16	18
Breaks prejudices against learning English	4	5
social satisfaction	3	7
Provides social satisfaction	2	5
Provides sense of achivement	2	2

Figure 3. 12. *A sample screenshot from Nvivo analysis*

The aim of using this program was to code all the relevant information in a systematic way. For instance, the following extract is from one of the PST reflective diaries.

> *"It was a good practice that guided students to productivity because they prepared their own distinctive products" (PST-7)*

The idea of 'productivity' in this extract was initially coded and stored in the node as 'learner productivity'. As new nodes were developed, when necessary in the coding process, the existing nodes were checked and data were revisited. As a result of this process, some ideas were moved to new emerging nodes. For instance, the idea mentioned above was later coded under the node of 'learner creativity'. As Jackson and Bazeley (2019) assert that the network of subconcepts branches out from the terminal points –nodes-, during the process of revising nodes and moving codes, some nodes were merged and some were deleted. For example, 'pen-paper saver' and 'time saver' were collapsed to become a new node 'economic' as both nodes describe how M-MALL contributes to the lesson in terms of the economic use of class sources. Thus, 'pen-paper saver' and 'time saver' were removed from the node list. After this step, nodes were compared and contrasted again to abridge the data by grouping the coded

extracts into sub-themes. The final stage of the data analysis included going through all the sub-themes in order to group them under the main themes. The final versions of the Code-Theme relationship for PSTs' perceptions on M-MALL training (Appendix-12) and M-MALL integration (Appendix-13) by Nvivo are given in the Appendices.

Data were analyzed by the researcher and 10% of each section in the qualitative data was rated by another researcher, who was also experienced in qualitative data analysis. It is practical and common to limit the data to test inter-coder reliability in qualitative analysis. Although the appropriate size of the sample depends on many factors, around 10% of the total data is found to be enough to decide on inter-rater reliability (Lombard, Snyder-Duch & Bracken, 2004). In order to test the inter-rater reliability, the following formula suggested by Miles and Huberman (1994, p. 64) was used. Inter-rater reliability was found as .74 which indicated a good degree of reliability.

Furthermore, in order to minimize the effect of reactivity and bias and for the trustworthiness of the results 'peer debriefing' was done with two expert researchers on qualitative data analysis. Peer debriefing refers to "the review of the data and research process by someone who is familiar with the research or the phenomenon being explored" (Creswell & Miller, 2000, p. 129). Peer debriefing sessions were carried out online several times with one of the expert researchers and a final face-to-face peer debriefing session was carried out with both expert researchers and the research of the current study. In this final session, all of the themes and sub-themes were reviewed to make sure there were no overlapping categories. Therefore, the data analysis results were supported and the credibility of the results was established.

3.5.3. Focus group interview

The recording of the focus group interview was transcribed verbatim and no transcription convention was used in the transcripts. The same procedure was used to analyze the transcriptions of the gathered data by using CCM. In order to provide reliability, 10% of the data was analyzed by the same second-rater. The aim of the interview was to support the data gathered through reflective diaries to further explain the perceptions of PSTs on M-MALL integration to actual teaching experiences.

Therefore, all codes and categories emerged from the interview and the reflective diaries were combined and analyzed together.

3.6. Pilot Study

The aim of this pilot study was to test the validity and reliability of the data collection tools and instruments that were going to be used in the actual study. The pilot study took place in fall term in 2018-2019 academic year prior to the actual study.

3.6.1. Participants

The Mobile Learning Perception Scale was conducted with 108 PSTs studying in ELT departments from randomly chosen universities in Turkey to test the reliability and validity of the scale. Furthermore, M-MALL training program was piloted with PSTs who have similar features with the PSTs taking part in the actual study. The pilot study was implemented on two groups of student and the contexts these students are as the following:

- Group – Micro-teaching context: 18 junior ELT students who were enrolled in a selective course named *Technology use in ELT* offered by the English Language Teaching Department in the same state university,
- Group 2- teaching practice context: Four senior English Language and Literature (ELL) students who were enrolled to *Teaching Experience* course offered by Faculty of Education Pedagogical Formation Program.

  Detailed information on these groups are presented in Table 3.2 below.

Table 3. 2. *Participants of the pilot M-MALL training program*

	Group 1: Micro-teaching context	**Group 2: Teaching practice context**
Grade/Course Enrolled	ELT Junior Students / Technology Use in Language Education	ELL Senior students / Teaching Practice Course as a part of Pedagogical Formation Program
Number	18	4
Gender	11 Females and 7 Males	3 Females and 1 Male
Frequency	Each student did 1 micro-teaching with a different M-MALL mobile application	Each student taught 4 English lessons using the most appropriate M-MALL mobile application for their assigned task
Teaching-context	Micro-teaching (peers)	Teaching practice in a state high school

3.6.2. Training on M-MALL

A training program on M-MALL was prepared and implemented on both groups in order to evaluate the materials, detect any problems with the training, find out its strength and weaknesses and revise it according to the results of the pilot study. These steps were followed for two weeks in both groups (Group 1 and 2) while training them on M-MALL.

Step 1. Presentation on M-MALL: The researcher presented the topics of Multimodality and Mobile Assisted Language Learning through a power point presentation prepared by the researcher. The researcher explained what these terms refer to and what the importance of M-MALL is by supporting the lecture with various visuals.

Step 2. Instruction on How to Prepare Lesson Plans and a Lesson Plan Template: The researcher gave instructions on the parts of a lesson plan and how lesson plans are designed in general. The researcher also gave a lesson plan template to the PSTs.

Step 3. Multimodal Mobile Application Evaluation Checklist: Criteria for Selecting Multimodal Smartphone Applications were prepared by the researcher based on research findings in the field (Blitz-Raith & Liu, 2017; Franklin, 2011) and presented to three experts from the field (in proposal presentation). Based on these criteria the researcher prepared M-MALL Smartphone Application Evaluation Checklist consisting of 18 items. The evaluators are expected to put a tick next to each item if that item exists in the M-MALL Smartphone Application that is going to be used in the lesson.

The aim of this evaluation checklist is to guide PSTs in their choice of smartphone applications. The more the items are met in chosen smartphone application, the application will be more likely to be Multimodal and suitable for MALL.

3.6.3. Instruments used in the pilot study

3.6.3.1. Mobile learning perception scale

In order to find out the general perceptions of ELT PSTs in a state university in Turkey Mobile Learning Perception Scale developed by Uzunboylu and Özdamlı (2011) was piloted with 108 PSTs studying in ELT departments from randomly chosen universities in Turkey. Cronbach Alpha coefficient was determined as α =.870 for the whole scale.

3.6.3.2. Training evaluation questions

In order to evaluate the effectiveness of the training sessions and improve the training for the actual study, the researcher asked participants in their native language to answer the following questions after the training session:

1. What do you think about the content and materials of the training that you received? Is there anything you want to change as content and / or material?
2. What do you think about the methodology of this training? Is there anything you want to change or add?
3. How do you evaluate the relevance and effectiveness of this training with the courses you will be preparing in your teaching practice?
4. Do you have anything to say about the training in general?

3.6.3.2. Guidance questions for data-led reflections

Guidance questions were given to the participants in order to help them in writing their reflections on M-MALL after watching the videos of M-MALL integrated lessons and micro-teachings. Both the questions and answers were in participants' native language in order not to create anxiety stemming from language limitations, and to make them feel relaxed and intimate in their responses. The guidance questions were:

For the participants (Group 1 and 2) who *carried out* the M-MALL lesson:

1. What do you think about the Multimodal mobile application itself and the integration of this application into the lesson plan (Teaching English)?
2. What are the positive and / or negative factors that affect the efficiency of this course? Discuss briefly.
3. If you were to prepare this course again, how would you prepare it? What would keep the same, what would you change, what would you add and what would you remove? Explain the reasons.
4. How did you feel during the lesson?
5. What were your problems in preparing your course?

For the participants (Group 1 and 2) who *observed* his/her peer's M-MALL lesson:

1. What do you think about the Multimodal mobile application itself and the integration of this application into the lesson plan (Teaching English)?
2. What are the positive and / or negative factors that affect the efficiency of this course? Discuss briefly.
3. If you were to prepare this lesson, how would you prepare it? What would keep the same, what would you change, what would you add and what would you remove? Explain the reasons.
4. How did you feel during class?

3.6.3.3. Open-ended questionnaire for high school students

In the teaching practice context, in order to get an idea of what high school students think about the integration of M-MALL to their English lessons and to identify any problems in training schools, an open ended questionnaire consisting of two questions was prepared by the researcher and the questions were reviewed by an expert from the field. The following questions were asked to high school students:

1. What do you generally think about the mobile applications in the lessons that your teacher had with you? State your positive / negative opinions.
2. Do you think that the mobile applications in your teacher's courses have an impact on your English learning? Please explain

In this way, by identifying any problems / insufficiencies in the pilot study at the training schools, the effects of external factors that may affect the results of the actual study can be eliminated or at least minimized.

3.6.3.4. Researcher's field notes

The researcher took field notes during micro-teaching presentations of ELT 3rd grade PSTs and ELL PSTs in Teaching Experience course. The aim of taking field notes, as with other qualitative data collection instruments, was to identify the problems that can interfere with the actual study results. The content included notes on weakness and strengths of tools that was going to be used in the actual study.

3.6.4. Procedure of the pilot study

The procedure of data collection and analysis in piloting is explained through Figure 3.2.

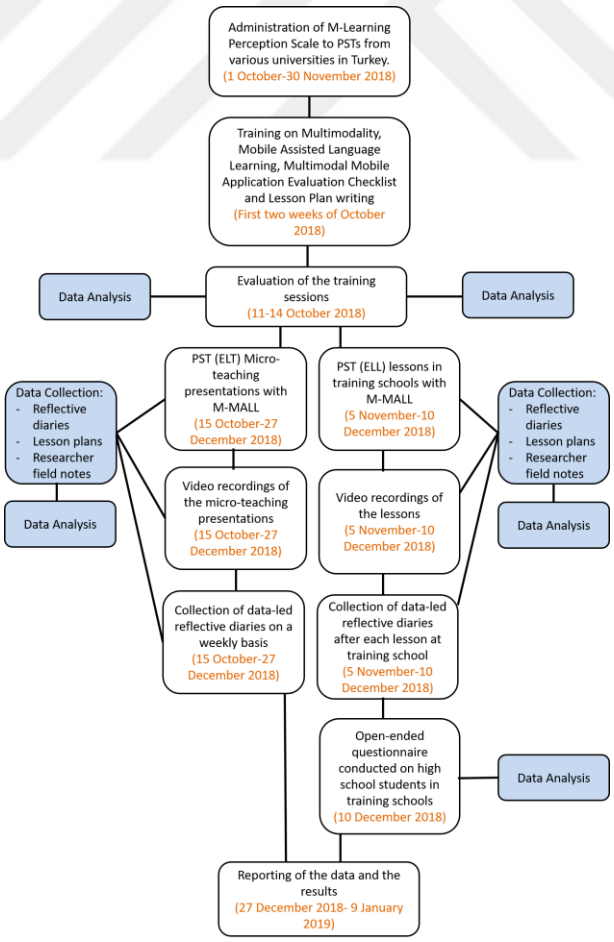


Figure 3. 13. *The procedure of data collection and analysis in piloting*

3.6.5. Findings of the pilot study

The findings in this section reveal the potential problems or external factors that may have an effect on the integration of M-MALL in ELT. This section includes PST perceptions on M-MALL integration in ELT, High School Students' Views on M-MALL, Researcher's Field Notes.

3.6.5.1. M-MALL Training Evaluation Results

M-MALL training evaluation questions were directed to PSTs in both groups (1 and 2) and their answers revealed the following suggestions which will be taken into consideration in shaping the M-MALL training in the actual study:

1. Time allotted for training on M-MALL should be longer.
2. Sample lesson plans can be presented to PSTs.
3. There should be a practice part on M-MALL for PSTs next to the theory.
4. There should be a smartboard in the classroom during training.
5. It would be nice to learn how to teach with M-MALL to learners, who are very young to own a mobile phone.

3.6.5.2. PST perceptions on M-MALL integration in ELT

In order to find out the perceptions of PSTs on using M-MALL in their reflective diaries were collected from both PSTs in the micro-teaching context (Group 1) and the ones in teaching practice context (Group 2). The aim of this data collection process is to find out the weaknesses and strengths of training on M-MALL integration in ELT and to test the reliability and validity of data collection instruments (e.g. reflective diaries) used. The perceptions of both groups of participants regarding M-MALL training implemented in ELT are presented in Table 3.3.

Table 3. 3. *PST perceptions on M-MALL in the pilot study*

	Opinions	**Problems**
Group 1: Micro-teaching Context	*The M-MALL mobile applications…* • were attractive • were enjoyable • were motivating • were easy to use • provided in-class interaction • resulted in whole class participation • enhanced creativity • enabled teacher feedback • resulted in more fruitful lessons • provided students a chance to research and explore on their own • highlighted weaknesses for students • helped students gain self-confidence	• Infrastructure problems • Features requiring payment • Complexity of PST's instructions
Group 2: Teaching Practice Context	• were attractive • were enjoyable • were appropriate to the content of the lesson • supported the subject • resulted in more fruitful lessons	• Poor download rate in the class • Uninterested students • Distraction due to Social Media • Complexity of the application • Crowded population • Limited-time (40 minutes) • Complexity of PST's instructions • Classroom management • Internet connection

3.6.5.3. High school students' views on M-MALL

Data were gathered through two open-ended questions, in order to get an idea of what high school students think about the integration of M-MALL to their English lessons and to identify any problems in training schools. Therefore, by identifying any problems in the pilot study, the researcher aimed to eliminate or at least minimize the effects of external factors that may affect the results of the actual study.

The open-ended questionnaire was answered by 36 high school students studying in 9^{th} and 12^{th} grades. The answers were coded and similar codes were grouped under main categories. The findings of high school students' views on the use of M-MALL application in their lessons with ELL teacher trainees are grouped under positive effects of M-MALL and problems with M-MALL. The findings are presented in Table 3.4.

Table 3. 4. *High School Students' Views on the Use of M-MALL*

Positive Effects			**Problems**
On Feelings	**On Learning**	**On Lessons**	- Poor/limited internet connection - Time-consuming - Low download rate of the M-MALL application - Distraction due to social media
The lessons with M-MALL are… - motivating - enjoyable - interesting	*The lessons with M-MALL…* - increased participation - increased retention	*M-MALL mobile applications were helpful for…* - understanding the lessons - more fruitful lessons - more informative lessons - more innovative lessons - more fast-moving lessons - making lessons more visual	

As it can be seen in Table 3, most of the views are positive and there are very few problems stated for M-MALL use in the lessons. Only two expressions were related with problems and these belonged to 12th grade students who are preparing for the university entrance exam in Turkey. It is obvious from the results that M-MALL integration made lessons more enjoyable and fruitful as stated by the high school students who experienced M-MALL. These findings supported the main aim of the actual study as it is important to train PSTs on how to use M-MALL in their future lessons so that they will have more effective English lessons.

3.6.5.4. Researcher's Field Notes

The problems identified by the researcher were:

1. PSTs need extra tasks in the training process in order to understand and integrate better M-MALL in their lessons.
2. PSTs need to be trained with various tasks on M-MALL lesson planning prior to their actual lesson planning process in their Teaching Practice.
3. Various M-MALL applications and how to search and find these applications should be introduced to PSTs.
4. Evaluation of the appropriateness of M-MALL mobile applications and determining the necessity of M-MALL integration to ELT should be highlighted in the training session with PSTs.

This piloting process enabled the researcher to develop the content and materials of Model of M-MALL Training and M-MALL Mobile Application Evaluation Checklist, and develop the data collection tools and instruments, i.e. training evaluation questions, guidance questions for reflective diaries, focus group interview questions.

Their validity and reliability for their use in the actual study were tested and all shortcomings were tried to be eliminated. Thus, data were collected by progressing though all the steps of the actual study without any problem.

CHAPTER 4

4. RESULTS

The primary aim of this study was to raise awareness on Multimodal Mobile Assisted Language Learning of EFL PSTs, enable them to experience this by training them on M-MALL, and find out their perceptions on mobile learning, M-MALL training and M-MALL integration into language learning. Based on these aims the following research questions were asked:

1. Is there any change in EFL PSTs' perceptions towards mobile learning after their actual teaching experience with M-MALL?
2. What are the perceptions of EFL PSTs on M-MALL training they received?
3. What are the perceptions and reflections of EFL PSTs on integrating M-MALL into their actual teaching experiences during teaching practice?

For the purposes of this study, the participants were first trained on M-MALL and after the completion of training the actual M-MALL integration was implemented by the participants in their lessons in *Teaching Practice*. The quantitative and qualitative results of the study are presented under the titles referring to each research question directed in the study. First, the quantitative results of the Mobile Learning Perception Scale indicating the PSTs' perceptions towards mobile assisted language learning before and after the training and experience with M-MALL are presented. Then, the qualitative results on the views of EFL PSTs on M-MALL training they received are given. Lastly, the qualitative results of the perceptions of EFL PSTs on integrating M-MALL into their actual teaching experiences through their reflective diaries and the interview are presented.

4.1.1. Is there any change in EFL PSTs' perceptions towards mobile learning after their actual teaching experience with M-MALL?

In order to find out the perceptions of participants towards mobile assisted language learning at the beginning of the study and after the actual teaching experience with M-MALL, Mobile Learning Perception Scale was conducted as pre- and post-tests. The results of the quantitative data analysis are presented below.

Descriptive analysis was conducted to picture the change in the results of the participants in both tests. The statistical results of MLPS pre and post-test results according to each participant are presented in Figure 4.1.

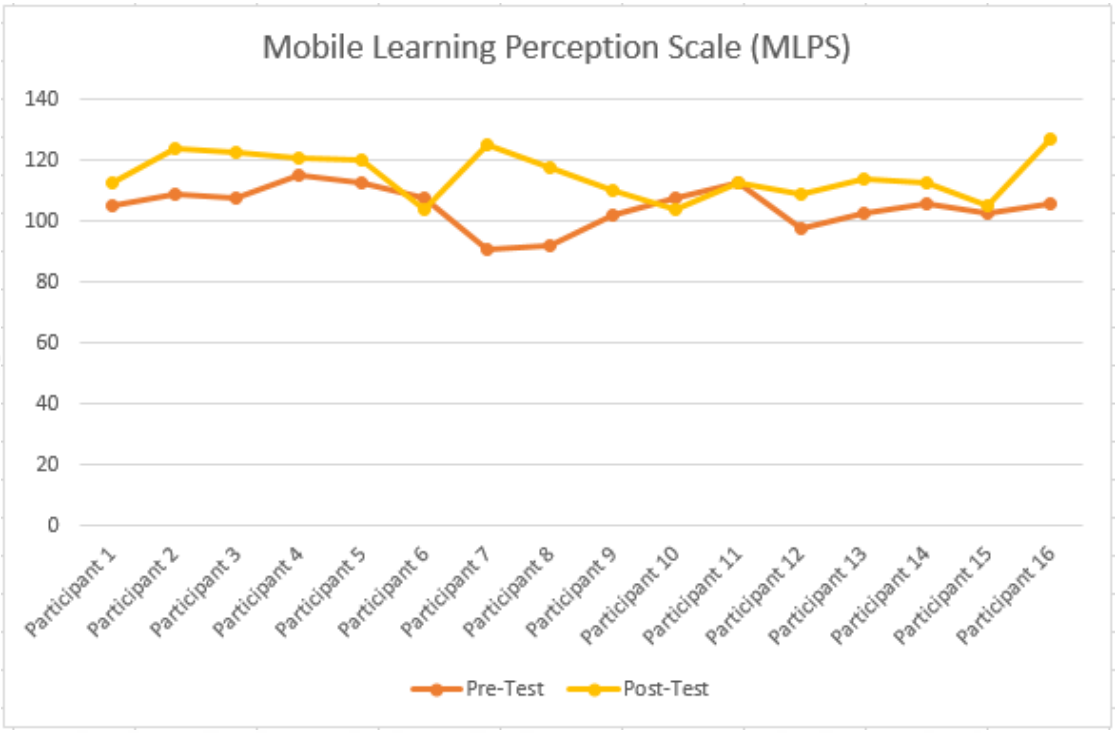


Figure 4.1. *Descriptive results for MLPS pre-and post-tests*

The participants rated the statements on a 5-point (ranging from 1. strongly disagree to 5. strongly agree) Likert scale. The points are given to the scale range from 26 to 130. Point means of mobile learning perception scale were explained in 3-point range as low (=26-60), average (=61-95), and high (=96-130). High points show positive mobile learning perception and low points show negative mobile learning perception. As seen in Figure 4.1. the MLPS pre-test points of the participants were relatively lower than their post-test points with a few exceptions who had similar perceptions levels in both pre and post-test. Furthermore, some of the participants' m-learning perceptions were observed to be low and increased a bit more compared to the other participants' MLPS points in the study, such as Participant 7. In other words, these participants' perceptions towards m-learning through this process increased more. These results also show that in the pre-test implemented prior to the study all of the participants -even who has the lowest point- had positive mobile learning perceptions as

all of their points were high. However, there was still an increase in their m-learning perceptions. In order to find out whether this difference in their pre and post-test results was significant a further statistical analysis was conducted.

Tests of Normality analysis was conducted to test whether the data had a normal distribution and were suitable for parametric statistical analysis. The results are presented in Table 4.1.

Table 4. 1. *Tests of Normality*

	Kolmogorov-Smirnov[a]			**Shapiro-Wilk**		
	Statistic	**df**	**p**	**Statistic**	**df**	**p**
Pre-test	,143	16	,200*	,930	16	,244
Post-test	,124	16	,200*	,939	16	,336

*. This is a lower bound of the true significance.
a. Lilliefors Significance Correction

As seen in Table 4.1. above, Kolmogorov-Smirnov values were taken into consideration in determining whether the data had a normal distribution since the sample included a small number of participants (16). As presented in the table, Kolmogorov-Smirnov p values were larger than .05 (p>.05), which indicates that the data had a normal distribution and parametric tests could be conducted.

Paired Samples T-Test was performed to see whether the participants' Mobile Learning perceptions changed after the 12-week-intervention period encompassing the training on MALL and actual teaching experience with M-MALL in high school settings. The results are presented in Table 4.2.

Table 4.2. *Paired Samples T-Test Results for MLPS Pre- and Post-tests*

Test	**N**	$\bar{X}$	**df**	**t**	**p**	**Cohen's d**
Pre-test	16	105.00	15	3.94	.001	1.40
Post-test	16	115.18				

The Paired Samples T-Test results revealed that there was a statistically significant difference between pre- and post-test results of the participants t(15)=3.94, p<.01. After the 12-week intervention process, participants' M-Learning perceptions were found to increase significantly (Pre-test X= 105.00 and Post-test X=115.18). The scale, MLPS, is explained in a 3-point range as low (=26-60), average (=61-95), and high (=96-130). High points show positive mobile learning perception and low points

show negative mobile learning perception. Thus, the pre-test mean score of MLPS demonstrates that the participants' perceptions were positive prior to the intervention period and this positivity increased over this period. In other words, as stated in the items of MLPS, the participants thought that M-learning increases interaction in the classroom, provides opportunities such as ubiquity, enhances the effectivity of existing learning environments, and willingness to use mobile tools.

The effect size for the significant difference between pre-and post-test results was calculated with Cohen's d value since the P-value does not reveal the size of the effect and only informs the reader whether an effect exists (Sullivan & Feinn, 2012). Being the main finding of a quantitative study, the effect size measures the magnitude of a treatment's effect (Becker, 2000). Thus, to understand the magnitude of the treatment in this study (i.e. eight-week M-MALL training + four-week actual teaching experience) on participants' perceptions towards M-Learning, Cohen's d value was calculated. The effect size was found as large (d=1.40) for the difference between pre- and post-test mean scores. In other words, even though both pre- and post-test results indicate high positive perceptions the difference between the two results is high. Thus, the analysis shows that the participants started to perceive M-learning more positively after being involved in the study.

These quantitative results draw an overall framework of PSTs' perceptions towards mobile learning in general. A detailed understanding of their perceptions on the training they received and multimodal mobile technology use in specifically teaching a foreign language is obtained by reflective diaries and analyzed qualitatively. The results of this qualitative analysis are presented under the second and third research questions in the following sections.

4.2. What are the perceptions of EFL PSTs on M-MALL training they received?

The second research question aimed at exploring the perceptions of the participant pre-service teachers about M-MALL training practice. The participants were involved in M-MALL training practice for eight weeks and engaged with M-MALL enhanced language teaching activities (see Appendix-2). After the eight-week training program, they were asked to write a reflective diary in which they would express what they think and feel about M-MALL training practice. The responses of the participants to the

guidance questions in the reflective diaries were analyzed and coded using CCM. Qualitative analysis results revealed a total of 139 codes regarding the perceptions of participants on M-MALL training. These codes were grouped under three main themes and three sub-themes. The main themes were identified as *gains* and *content* and *feelings.* The distribution of sub-themes is given in Table 4.3.

Table 4.3. *Distribution of sub-themes according to the main themes concerning PSTs' perceptions on M-MALL Training*

Main themes	Sub-themes	N*
Gains	*Teaching skills* *M-MALL integration* *Being up-to-date*	79
Content	*Materials* *Process*	53
Feelings	*Self-content* *Satisfaction with the trainer*	7
	Total	**139**

N*: Number of codes

Table 4.3. shows the distributions of sub-themes under three main themes. Three sub-themes emerged from the qualitative data analysis under the main theme of ***gains (n=79)*** which were *teaching skills*, *M-MALL integration*, and *being up-to-date*. Two sub-themes were grouped under the main theme of ***content (n=53)*** that were materials and process. Finally, two sub-themes were grouped under the main theme of ***feelings (n=7)*** which were *self-content* and *satisfaction* with the trainer. Detailed explanations concerning these sub-themes are presented in the following sections with quotes from PSTs' reflections.

Perceptions on gains

The PSTs who received eight-week training on M-MALL indicated some ***gains (n=79***) during the training process which will be exemplified in further details with PST quotes from their reflections to M-MALL training. First of all, PSTs indicated that receiving training on the integration of multimodal mobile technologies into ELT helped ***gain some teaching skills*** such as preparing enjoyable, non-monotonic lessons by which they could endear English lessons, break their students' prejudices against

English and help their students integrate English into their daily lives. The PSTs indicated their views on how they expect M-MALL to contribute to their lessons in these ways as follows:

> *"Thanks to this training, I think my lessons will be fun and always desired, away from monotony and boredom." (PST4)*
>
> *"Unlike traditional approaches, lessons taught with the use of M-MALL mobile applications will create a process that puts EFL learners to the center and ensures their active participation in the lesson by learning and having fun without boring them during the lesson." (PST10)*
>
> *"EFL learners can sometimes be biased towards English and I think that this M-MALL training will help us, as teachers, a lot to break these prejudices." (PST14)*
>
> *"Of course, with this training, it will be very useful to make EFL learners like English lessons." PST1*
>
> *"This training was very important for changing the EFL learners' minds and for easily integrating English into their real lives." (PST4)*

As seen by the statements in the quotes given above, participants believed that thanks to M-MALL training, they could have more enjoyable lessons, because with M-MALL tasks the EFL learners are put in the center of learning. Moreover, the participants stated that they could design lessons that are far away from being monotonous as they believed that with this training they learned how to enhance their EFL learners' active participation. Furthermore, PSTs thought that thanks to M-MALL training they could help their learners integrate English into their daily lives and break their prejudices against learning English as they expect their EFL learners to like learning English more with multimodal mobile applications.

Furthermore, PSTs stated that M-MALL training would help them design more efficient, enriched, and time-saving lessons in which they take their EFL learners' needs and interests into consideration. The PSTs indicated their view on these issues as:

> *"We can transfer a fill in the blank, reading or listening exercise presented in the textbook into a more enjoyable activity and present it to the EFL learner and can have more efficient lessons." (PST8)*
>
> *"Today, we know that technology helps us to access information quickly, and using this technology in our lessons allows us to save time while affecting (positively) the attitude of children towards the lesson." (PST7)*
>
> *"In language teaching, I think students should be taught by multimodal activities because each student's learning style is different. Some students learn by seeing, others learn better*

by hearing. M-MALL training will provide us the opportunity to present them together." (PST16)

As stated by PST8, M-MALL training was believed to help them transfer the activities presented in textbooks with already existing methods such as fill in the blanks into more enjoyable ones with multimodal mobile tools and in this way the lessons would be more efficient in teaching English to EFL learners. Moreover, this training was seen helpful in using mobile technologies in the classroom to save time for accessing and using information during English lessons. Finally, as PST16 indicates, by using these technologies, they would be able to approach the students with diferent learning styles such as such as audial or visual. Thanks to these multimodal mobile applications whose integration were presented in M-MALL training, the PSTs believed that they could address their learners' needs and interests better. As the name suggests, multimodal mobile applications offer their users to use several modes such as videos, animations, pictures, texts or sounds for meaning making. Thus, PSTs believed that with this training they could know how to use these multimodal tools for their EFL learners according to their preferences and learning styles.

In the second sub-theme, the participants asserted that receiving this training helped them develop and improve ***skills for integrating M-MALL*** into their future English lessons. In other words, after this training, they felt competent enough to use M-MALL in their lessons. The participants explained how their knowledge of M-MALL increased throughout this eight-week training as follows:

"During this eight-week training period, I successfully learned the use of M-MALL mobile applications, the purpose of the applications used, how they were selected, how they were integrated into the activity, and how I should prepare a related lesson plan." (PST5)

"Although we are in the age of technology, I did not know about most mobile applications and I had never encountered others (given sample applications in the current study) except for a few applications before. With this 8-week training, I have gained information about many applications that can be effective in listening and reading skills, as well as writing and speaking skills, especially in English teaching, and the use of these applications and their integration into English teaching. And at the end of this process, I think it is very important as a teacher candidate to receive a training on how to choose an appropriate mobile application for an appropriate activity especially for the skill I want the EFL learner to gain." (PST10)

According to PST5, the training was useful in providing them with the necessary information about how, where, and when to integrate M-MALL with which multimodal

mobile application. She also stated that this training helped her design lesson plans for M-MALL. As PST10 further indicates, this training was helpful for them to be able to design M-MALL lessons for various language skills such as reading, listening, writing, and speaking. She indicated that she had known very little of these multimodal mobile applications and their use in EFL teaching prior to the study and after this training, she learned how to choose an appropriate activity for M-MALL transfer and use appropriate M-MALL applications. Other participants further state their views on their M-MALL learning process as follows:

> *"We discussed whether various activities are suitable for M-MALL with the tasks we did, and thus we got an idea about how to use mobile applications in the most effective way. All details such as what M-MALL mobile applications are, how to integrate them into the activity effectively, what are the advantages and disadvantages for students and teachers, and what kind of contributions they have to English teaching were explained to us clearly by our instructor (the researcher)." (PST13)*
>
> *"First of all, I think I will use the information I have learned thanks to this training we have received for eight weeks is the information throughout my life, and that I can add more to this information with new technologies and opportunities (in future)." (PST7)*

According to PST13, the information given in the training process was helpful for her to understand the concept of M-MALL in various aspects such as how to integrate M-MALL into EFL teaching effectively and what are the contributions of M-MALL to EFL learning. Similarly, PST7 indicates how useful the training was in developing their knowledge on M-MALL and she stated that the knowledge she gained through the training would be useful for her throughout her life. It is also worth to highlight here that this study aimed to teach PSTs on the steps and procedures of M-MALL integration into EFL learning and teaching and not to promote an application for PSTs to use directly in their teaching, because it is believed that the existing tools and applications today may not be available tomorrow. Thus, PST7's assertion to use the information gained through this training to use new technologies and opportunities in the future supports that the study has researched its aim upon this issue.

In the last sub-theme, M-MALL training was found to be helpful by the participants as it would keep them ***up-to-date*** with the recent teaching methods and with recent technologies used in EFL teaching. They indicated that they learned to be open to the new advancements in technology integration in EFL teaching. The PSTs stated their views on the effect of training on this issue as follows:

"This training taught me how to adapt to EFL learners of the technology age." (PST6)

"Our age is the age of technology as everyone knows. Considering this situation, I think that this training is very beneficial in that it will take us from classrooms that still do not contain technology in which ordinary and boring lessons are taught, and put us into the classes that we both (with EFL learners) enjoy with technology. This will enable us to develop ourselves and our ELF learners much better." (PST16)

According to the views of PSTs quoted above, the training would help them understand their EFL learners who would already be more engaged with technology in their daily lives. Furthermore, the new indispensable requirements that the new age brought would be easily adopted by the PSTs who received this training on M-MALL as they would know how to design lesson plans including the recent technologies. According to PST16 M-MALL would help them in developing their mobile-assisted language lessons in the future.

All in all, the participants of the current study thought that M-MALL would contribute to their profession as it enhanced their teaching skills and knowledge on multimodal mobile technology integration. Also, it would help them keep up with the latest advancement in the technology age. Along with the gains, PSTs also stated their views on the content of training in their reflections.

Perceptions on the content of the training

The second main theme emerged from the qualitative data was about the views of PSTs on the ***content (n=53)*** of M-MALL training they received. The codes in this main theme were grouped under two sub-themes. As the first sub-theme revealed, the ***materials*** of the training helped comprehend the concept and the processes of M-MALL better. PSTs stated that everything was introduced in clear steps with rich and detailed examples and in a multimodal way with various audio-visual and textual modes. The PSTs stated their views on the comprehensibility of the content as follows:

"I can say that the materials used (in the training) were thought out to the finest detail and laid the groundwork for a more understandable and beneficial training for us." (PST10)

"We discussed whether the book activities can be transferred to M-MALL using the chosen applications. This allowed us to get more detailed information about the applications." (PST9)

"In general, I can say that everything was clear and the materials used were very useful and instructive." (PST2)

As these PSTs' statements quoted above indicate, the materials (i.e. the *Thinglink* page used in background activation, the tasks and handouts for these tasks and the lesson plans introduced in the modelling step, the M-MALL Mobile Application Evaluation Checklist, and so on) of the training were all found to be helpful, clear, informative and detailed for PSTs to understand the concept of M-MALL and its integration processes.

As indicated in the second sub-theme, apart from the materials used and distributed in the training, the ***process***, especially modelling and micro-teaching and the in-class discussions after each task was indicated to be quite helpful for PSTs to comprehend M-MALL better. The participants stated their thoughts on this issue as:

> *"In this training (modelling) process, the sample application choices for the activities you (the researcher) have determined for each skill area and the sample materials you (the researcher) demonstrate for how you (the researcher) create lesson plans and your (the researcher's) highlights on where we should pay attention (in lesson planning) have taken us (PSTs) one step further." (PST10)*
>
> *"Not only the training was theoretical, but also our teacher (the researcher) taught exemplary lessons in the classroom and at the end of the training, we also reinforced the training we received with the micro-teaching lessons we did." (PST11)*
>
> *"Practical demonstration during the training helped me understand the purpose and use of the mobile applications better." (PTS6)*

According to PSTs 10, 11, and 6, the modelling technique implemented by the researcher to demonstrate and teach how to design an M-MALL integrated lesson was found to be quite helpful for PTS to understand how this integration should take place. As they stated, this demonstration was useful for them to understand each step of selecting appropriate M-MALL mobile application for an appropriate textbook activity for M-MALL transfer and writing the parts of the lesson plan according to the designed activities. The participants also state their views on the usefulness of micro-teaching sessions at the final steps of the training as:

> *"In the last weeks of the training, we conducted micro-teaching in small groups. After the last week's implementation part, things about M-MALL applications have become clearer in my mind." (PST3)*
>
> *"At the end of the training, we have done the pre-practice of the information we have acquired in this process with the micro-teaching lessons we have done in groups. I can say that the micro-teaching lessons our friends have made also contributed because I got ideas by seeing different perspectives with these lessons." (PST7)*

"The last micro-teaching lesson we prepared has enabled us to be involved in M-MALL more, and the feedback and comments given in this process provided a clearer understanding of the concept." (PST15)

According to the above statements of PSTs, the micro-teaching lessons held by the participants in groups were found to be quite useful in fostering the knowledge of M-MALL integration. The participants highlight that observing other PSTs' micro-teaching lessons and the discussions held after these sessions were quite useful comprehending M-MALL as they were able to see various integration processes of M-MALL.

Moreover, the presentation of the content was found to be useful for the participants to understand the training process and the integration of M-MALL better. According to them, using categorization in the content display, a good organization of topics for each week going from easy to difficult and supporting learning by practice made M-MALL training more comprehensible. One of the participant's views on the benefit of categorization is as follows:

"The applications consisted of seven groups, and supporting of each group with associated activities also led to more meaningful and permanent learning." (PST10)

As seen by the statement of PST10, the M-MALL mobile applications were presented in groups based on their features that address teaching and practicing different language skills and structures. For example, applications that can be used for listening and speaking skills such as *Flipgrid or Recap* were grouped under the category of 'video-based tools' and the ones that enable assessment such as *Kahoot* were grouped under the category of 'quiz tools'. At the 'Awareness Raising' stage of the M-MALL training, the PSTs were introduced with these categories with two or three sample applications and were given four textbook activities for each category for them to decide on which textbook activity was appropriate for integrating M-MALL. Therefore, this categorization of M-MALL mobile applications and the way they are presented to the participants were found to be fruitful in understanding the logic behind M-MALL.

In conclusion, in terms of materials and content of M-MALL training, PSTs stated positive views and found the content very comprehensible since it was detailed, informative, clear, and organized. Furthermore, the chances of practicing and discussing M-MALL and the modelling technique were found to be highly contributive for PSTs

development. Along with these positive views on the content of the training, the PSTs also indicated to have positive feelings during training.

Perceptions of feelings towards training

The third main theme was identified as ***the feelings of PTSs towards training (n=7)***. First of all, the codes that emerged from the data showed that PSTs were ***self-content*** and developed positive feelings towards M-MALL training. Participants stated that they felt lucky for being introduced to M-MALL and were given a chance to understand and apply it before graduation. One of the students indicated her feeling as follows:

> *"I feel lucky and responsible for receiving this education that will benefit me not only in my university life but also throughout my teaching life." (PST15)*

It can be understood by this PTS's statement that M-MALL training is seen as a useful practice that will help participant PTSs throughout their professional lives. Participants also indicated that they are happy to be involved in such training just before their professional teaching life, and they stated that the process was enjoyable.

As the second sub-theme indicates the PSTs were ***satisfied with the trainer*** but very few participants stated their views and indicated that this training was given eagerly and enthusiastically and in a supportive manner by their trainer.

All in all, although these feelings stated by very few participants, it can be concluded that M-MALL training promoted positive views. Furthermore, no participant indicated a negative thought or feeling for the training they received in their reflection. This can also indicate that the training experience was mostly favorable for the participants.

As a result, the training PSTs received had fruitful results in terms of their teaching skills, M-MALL integration knowledge, keeping up-to-date with recent technologies, and fostering positive feelings towards technology integration. With the help of training which focused on hands-on teaching experiences, they gained confidence in integrating technology into language classes. After completing this eight-week training process, the participants were ready to apply what they learned throughout the training into real-life classroom contexts with their peers.

4.3. What are the perceptions and reflections of EFL PSTs on integrating M-MALL into their actual teaching experiences during teaching practice?

The third research question aimed to find out the perceptions of PSTs on integrating M-MALL applications into their actual teaching experiences during teaching practice. In order to examine their perceptions regarding their experiences with M-MALL, the participants were asked to apply what they have learned from M-MALL training into their lessons in their *Teaching Practice* classes. The participants were asked to write reflective diaries both for their own teaching experiences and for their peers' experiences with M-MALL on a weekly schedule throughout four weeks (a total of 254 reflective diaries). Furthermore, PTSs were interviewed on their experience at the end of this whole process. A total of 2160 codes emerged from the qualitative data regarding the PSTs' perceptions on M-MALL. These codes were grouped under five main themes. Main themes were identified as *contributions of M-MALL on EFL learners' learning, contributions of M-MALL on the lesson, effects of M-MALL on PSTs' feelings, prerequisites of M-MALL integration*, and *problems in M-MALL integration.* The rest of this section presents each of the main themes and sub-themes in detail with tables.

Contributions of M-MALL on EFL learners' learning

In their reflective diaries and the interview, the prospective teachers indicated many contributions of M-MALL activities they implemented on the high school students' learning. In other words, according to PSTs, M-MALL enhanced EFL learners' learning processes. A total of 1040 codes emerged under this main theme. As a result of the qualitative analysis process, these codes were grouped under six sub-themes. The distribution of codes and the sub-themes are presented below in Table 4.4.

Table 4.4. *Distribution of codes according to the main theme 1: contributions of M-MALL on EFL learners' learning*

Sub-themes	**N***
M-MALL activities increased EFL learners'…	
positive attitudes towards English	486
active participation	265
attention	181
creativity	69
confidence	39
Total	**1040**

N*: Number of codes

As demonstrated in Table 4.4, six sub-themes emerged from the qualitative data analysis and grouped under this main theme. The first sub-theme was identified as EFL learners' *positive attitudes towards English (n=486).* The second mostly indicated sub-theme was EFL learners' increased *active participation (n=265).* EFL learners' *increased attention (n=181)* followed these sub-themes as the third most frequently coded outcome of M-MALL integration. *Creativity (n=69),* and *confidence (n=39)* were the other sub-themes that emerged related to contributions of M-MALL on EFL learners' learning. Detailed explanations with PST quotes from reflective diaries and the interview and with screenshots of the applications used by PSTs during M-MALL implementation were given below in the following sub-sections. It is useful to remind that this current study aimed to enhance EFL PSTs' abilities to successfully integrate M-MALL into their teaching. Therefore, even though the explanations below included various multimodal mobile applications and images related to them, the aim here was not to promote any mobile application but to exemplify the views behind PSTs' indications.

Positive attitudes towards English (n=486) were observed by PSTs during M-MALL activities in the training schools. The participants stated that EFL learners demonstrated enjoyment, motivation, and social satisfaction during M-MALL tasks. Moreover, PSTs indicated that these tasks broke students' prejudices against EFL learning. How all these positive attitudes towards English were developed in lessons with M-MALL integration were explained and exemplified with the multimodal mobile applications used in these M-MALL tasks by PSTs.

All of the PSTs indicated repeatedly that during M-MALL integration the students were really happy and enjoyed. As the participants stated in their reflective diaries, both themselves and their students enjoyed their classes a lot during M-MALL activities. According to the participants' indications, the functions of M-MALL mobile tools, the familiarity of EFL learners with the functions of these tools, and using a tool (smartphone) that is normally forbidden in schools were effective in leading EFL learners to experience positive feelings such as enjoyment and happiness during M-MALL integrated lessons. The functions of the M-MALL tools such as *Augmented Reality Tools* (e.g. HP Reveal) which provide augmented reality experience, *Quiz Tools* (e.g. *Kahoot and Cram)* which provide online competitive quiz environments, or *Visual-sketching and Note-taking Tools* (e.g. *Canva*) that enable learners to design their creative posters and texts were found to be contributive in EFL learners' enjoyment during activities.

> *"The students were surprised since they hadn't used the application (HP Reveal) before. The facial expressions when they saw them open a video from a book page were pretty fun and they all liked it as far as I could observe." (PST4)*
>
> *"Kahoot is an application loved by all students. Collecting points, while students answer questions, puts them in a race and increase their participation." (PST16)*
>
> *"For the students, it was a nice and subject-appropriate application (Cram) that entertained while teaching and made the subject or words more permanent while entertaining." (PST7)*

As seen by the statements of the above-quoted PSTs, the EFL learners showed positive attitudes towards learning in their EFL lessons with M-MALL. Being a whole new experience for these EFL high school students, M-MALL paved the way for positive emotions to emerge through the wide-range of functions they provide for learning.

Moreover, students' familiarity with mobile phone use was also indicated to be a factor for having fun during M-MALL activities as the EFL learners have already been using their smartphones for social media, listening to music, or watching videos. According to the participants, the *Interactive Smartboard Tools* such as *Padlet* give learners a sense of interacting on a social platform. As can be seen in Figure 4.1 below, *Padlet* is an interactive whiteboard application that enables students to connect with their smartphones and write on an interactive board either with showing or hiding their identities. The participants stated that in this way, students could answer the questions,

did the given tasks, watched the assigned videos, or read the related texts from their mobiles within the time allotted for M-MALL activities. Students could participate in the tasks with their smartphones and did the tasks on their own. Then, they could share their products with their friends and their teacher and got individual feedback for their work.

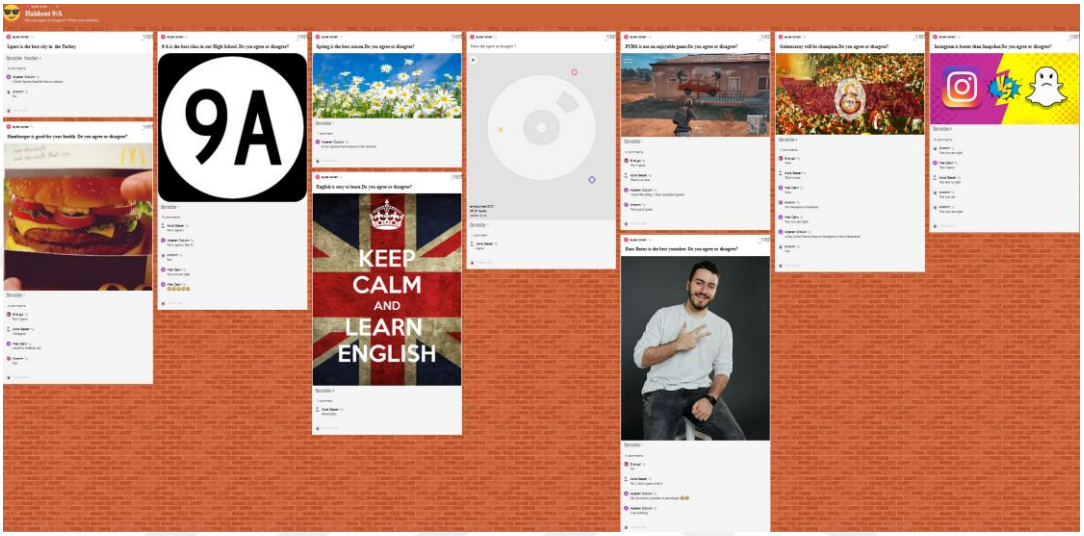


Figure 4. 1. *A sample Padlet page*

In terms of the familiarity aspect of these tools and the enjoyment they provide for ELF learners one of the PSTs stated the following:

> *"The students had a lot of fun while using the application (Padlet), as our topic is connected to social media and my friend chose topics that are of interest to children. They gave audial feedback to each other's answers by sharing ideas collectively." (PST3)*

The PST3's indications demonstrate that the experience with Padlet and the way the PSTs designed the M-MALL activity using one of the *Interactive Smartboard Tools* resembled to the experience that EFL learners usually have when using social media. As a result, the high school students enjoyed a lot during the M-MALL integrated lesson.

Lastly, M-MALL was observed to be a whole new experience in the classroom since the existing education system does not allow using mobiles in the class and was found to be contributive for having an enjoyable classroom atmosphere. One of the PSTs indicated her view as:

> *"Most people downloaded the app (Flipgrid) and liked it. Especially, they were surprised by the use of the phone in class. They asked if there is permission. We said yes." (PST14)*

Similar to PST14's statements, other PSTs also indicated that their students were very happy to use their smartphones which were normally not used or forbidden to use during lessons in Turkey.

The PSTs stated that thanks to M-MALL tasks the classroom atmosphere became energetic and this energy took away the monotony of the lesson and left an enjoyable experience for EFL learners. Some of the participants indicated their views on how enjoyable the lesson was as follows:

> *"I think it is a fun application (Kahoot) that allows students to increase their interest by preventing the course from becoming monotonous." (PST6)*
>
> *"It (Kahoot) is an enjoyable and remarkable activity for the students, so both the students have fun and their participation in the class increases. The classroom atmosphere becomes fun." (PST4)*

According to the PSTs 6 and 4 quoted above, especially with quiz-type M-MALL applications like *Kahoot (Quiz Tools),* M-MALL was found to trigger students' excitement. The M-MALL application such as HP Reveal, which enables its users and AR experience, and some other applications such as *Padlet (Interactive Smartboard Tool), Cram (Quiz Tool),* or *Plickers (Quiz Tool)* that students had not been come across before were found to be surprising and enjoyable for high school students.

The participants also indicated that students were found to be socially satisfied with their learning experience thanks to M-MALL. According to one of the PSTs, social satisfaction means being able to achieve something new for him through his own device within his own community. One of the students explained this as:

> *"With the M-MALL mobile applications, I think that students are not only positively affected in terms of their efficacy in lessons but also achieve social satisfaction because the reinforcements that the student has received from the book in the usual way have become ordinary reinforcers for them. But when they succeeded in these (M-MALL) activities through their individual phones and these reinforcements we gave in return motivated them seriously. In other words, even if the student did not know anything, he took ideas from us and made an effort to produce something there to write something by discussing with his friends ... For 4 weeks, when the right practices were integrated into the right activity, I think it was very effective in both increasing the productivity of the students and achieving social satisfaction ... When the student sees that he / she can do something from a tool that he / she is not used to, this affects him/her in a positive way, both in the circle of friends and within himself/herself. So the child falls into such a perception: "I was able to*

accomplish something I never knew, from my own phone." I think, in this way, the student can have social satisfaction." (PST13)

According to PST13, although high school students were dealing with the latest technology in their daily lives, it was quite new for them to have these recent technologies in the language classroom. As she indicated, this whole new experience and the reinforcement the student receives at the end would get EFL learners socially satisfied. In other words, when students achieve a sense of accomplishment in this new experience (M-MALL) with their smartphones, this leads to a feeling of social satisfaction as well.

M-MALL was also found to be breaking down prejudices against English. The participants stated that in Turkey most people have prejudices against English, which is hard to cope with in the EFL classroom. They believe that using M-MALL in the EFL classroom would change the way students think and encourage them develop positive attitudes towards learning English. For example, M-MALL tasks designed with *Online Classroom Tools* such as *Edpuzzle* were found to be quite helpful for developing positive attitudes among students and eliminating their prejudices against learning English. *Edpuzzle* provides teachers a platform in which they can choose videos from various video channels embedded in the application such as *Youtube*, *Khan Academy*, *Ted Talks*, and *National Geographic*. Choosing among these channels, teachers can embed questions about the video at various points and the video stops at these points when the questions pop up. The questions can include multiple-choice, true/false, or open-ended formats. A sample screenshot is presented in Figure 4.2 below.

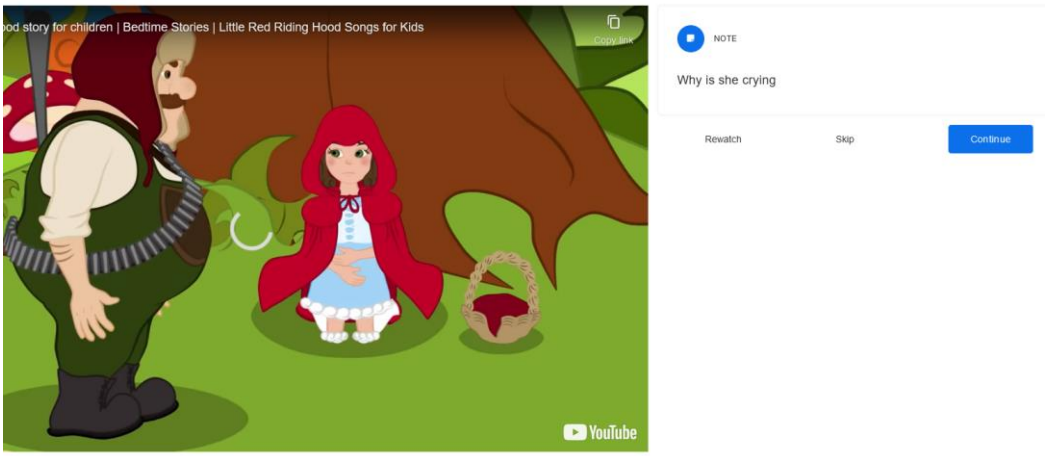


Figure 4. 2. *A sample screenshot of Edpuzzle application*

Considering these functions of Edpuzzle, one of the participants stated her views as follows:

> *" I think the existence of the reading text in a voiced form, the support with simultaneous videos, and enrichment with questions that provide attention, prevents it (Edpuzzle) from being seen as a simple application. I thought it could be a system that could potentially eliminate the perception of" English lesson is difficult / I cannot learn" that has existed until today, if it is used more actively, more productively and continuously as part of the lesson." (PST10)*

As stated by PST10, these M-MALL tools need to be used more in teaching English in order to eliminate the prejudices against learning. According to her views, thanks to various ways of supporting comprehension and learning tools like Edpuzzle can help eliminate this view from the EFL learners' mind.

Along with all these positive attitudes towards learning, motivation levels were also found to be the rose as a result of M-MALL integration. The increased motivation of high school students during the M-MALL activities made PSTs believe that their students' perceptions of learning English improved positively. The participants indicated that students wanted to carry on the tasks during the breaks at school and at home as these applications eased the way they do the activities. For example, *Canva* is an application that is not specifically designed for educational purposes and categorized under 'Visual Sketching and Note-taking Tools' in this study. It is a multimodal application that allows its users to create posters by using pictures, gifs, and texts. PSTs mostly asked their students to design posters using the *Canva* application (see Figure 4.3) during M-MALL integration.

Figure 4. 3. *A sample Canva poster*

They frequently stated that these types of applications motivated their students to produce target language in terms of writing. The participants explained how this happened through an example from the application *Canva* as follows:

> *"First of all, Canva enables us and students to prepare high-quality presentations and posters with a very simple and useful interface. With many photos and icons, it allows students to turn what is on their minds into an image and attract their attention. In this way, students view English more positively. In addition, using their phones and preparing posters increase their motivation considerably." (PST16)*

As seen by the statements of PST16, applications that have simple interfaces and colorful designs (like Canva) attract EFL learners' attention and motivate them to participate in the language learning tasks.

Throughout the M-MALL teaching experience, PSTs stated how motivating these M-MALL activities for EFL learners are. According to PSTs, using familiar technologies that students are always involved (i.e. their mobile phones), letting them see their own and friends' progress, receiving feedback from both the teacher and friends (e.g. Recap, Padlet, Flipgrid, and so on), and triggering a little positive rivalry (e.g. Kahoot and Cram) helped students get motivated for the English lessons. One of the frequently used application was *Recap*. A sample screenshot taken from *Recap* application's page is given in Figure 4.4 to demonstrate the application.

Figure 4. 4. *A sample Recap page*

Recap application allows teachers to assign tasks that their students can hand in oral responses via videos. Students can watch their peers' videos and give comments. Similarly, teachers can also leave comments for their students' work or give private feedback individually for each student. Moreover, students can have discussions on a given topic under the comments section based on their peer's ideas stated in the video. One of the prospective teachers stated the following statement about how motivating *Recap* was in her lesson*:*

> *"During this lesson, the students had a lot of fun using the Recap application, and at the end of the lesson, they formed sentences such as 'let's not finish my teacher, can we continue the next lesson?' This shows that the students have fun. Such practices motivate students and increase their interest in the course." (PST14)*

As it can be seen from PST14's statements, EFL learners wanted to continue speaking in English using this application. The pleasure they had from this task designed by using one of the *Video-based Tools* were found to be very motivating for EFL learners.

Another motivating and most frequently used group of M-MALL mobile tools was *Quiz Tools*. *Kahoot* and *Cram*, which were grouped under this category in this study, were considered among the most motivating M-MALL applications by the participants due to their feature of providing a competitive environment among students. While *Kahoot* offers multiple-choice question poll for students to enter the quiz with the given code and pick up nicknames, *Cram* provides students an individualized but at the same time competitive environment in which learners deal with a matching game experience (see Figure 3.4). PSTs prepared multimodal questions in which they embedded aural and visual elements next to the text in the question root (in *Kahoot*) or in the flashcards (in *Cram*). The multimodal questions are exemplified in Figure 4.5. These multimodal questions were found to be more motivating for students by the participants as they aided the students' understanding of the question.

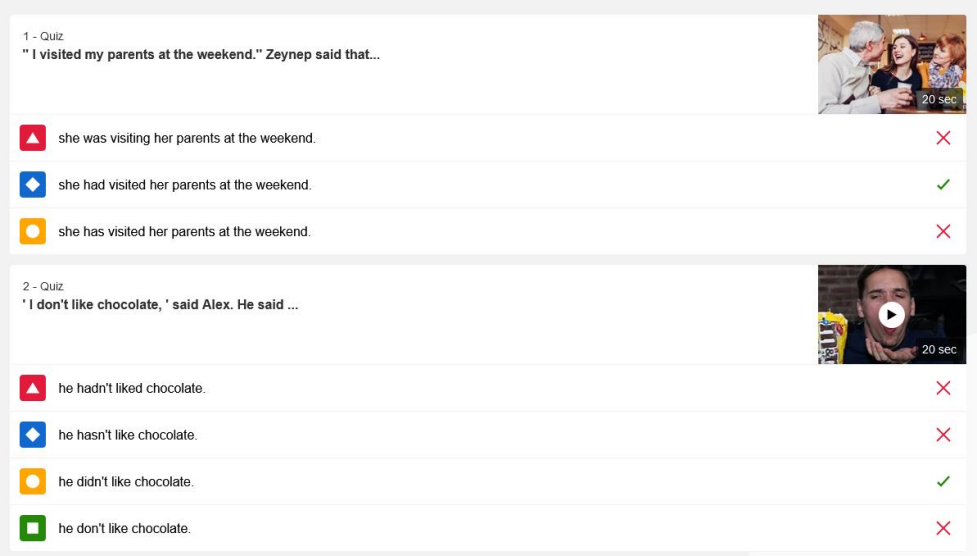


Figure 4. 5. *Sample multimodal questions in Kahoot application*

One of the PSTs stated her views on how these Quiz Tools promoted motivation during her lesson as:

> *"Students want to answer questions that they will often avoid answering through this application (Kahoot). They even think about it to find the right answer and try to be the best in the game (Kahoot)." (PST10)*

According to PST10, using this Quiz Tool made EFL learners motivated to participate in the task and answer the questions. Furthermore, EFL learners were also observed to be motivated to find the right answers in the quiz to improve their language learning. One of the PSTs stated the following:

> *"There was rivalry among the EFL learners, but I saw that a few students were more ambitious to learn the correct answers than to be # 1, which made me even happier." (PST3)*

The features of M-MALL mobile applications can make EFL learners eager to participate in the activity and pursue the task, as exemplified above. However, as PST3 indicates, these features (such as rivalry in Kahoot) sometimes do not play a big role in motivating EFL learners and these leaners can be motivated not for the sake of competition but for using these tools to improve their foreign language skills as well. Thus, it can be inferred that no matter what specific feature that an application provides, the M-MALL experience itself can be motivating for EFL learners to enhance their language skills.

All in all, M-MALL experience with various multimodal mobile tools were found to be effective in promoting positive attitudes in EFL learners such as being motivated and feeling enjoyed. These positive attitudes were also found to be effective in students' eagerness in contributing to the activities as coded and grouped under the next sub-theme.

Active participation (n=265) was the second most frequently stated contribution of M-MALL among PSTs. According to PSTs' observations during their activities with M-MALL, high school students participated in the activities eagerly and enthusiastically sharing and interacting with their friends using their smartphones. The participants indicated that M-MALL provided opportunities for students to be active at the same time. For example, *'Interactive Smartboard Tools'* were stated to help increase students' active participation as a whole class at the same time, contrary to the existing teaching methods, which only provides opportunities for individual or group work. *Padlet* is one of the M-MALL mobile applications given under this category as explained in detail and exemplified previously in this chapter. The participants indicated that *Padlet* allowed EFL learners to be active all together at the same time. PSTs also stated that a more-student centered learning environment was formed, in which students were more active than the teacher. PSTs shared their views as:

> *"I was very happy to see that the students actively participated in the lesson with the application (Padlet). The students responded to each other's comments in English and responded to all the posts I added." (PST2)*
>
> *"I think that these applications (HP Reveal, Recap) have the importance of increasing the interaction in the classroom, making the student active in the lesson and leaving positive effects on the students for the English lesson. With HP Reveal, while students interact both visually and aurally, they try to reveal their competencies in terms of speaking skills with Recap application. When we look at it, it is possible to say that these applications lead a student-centered system." (PST10)*

As seen from PST10's statements, in M-MALL activities high school students interact more with each other and the teacher. M-MALL mobile applications' features such as sharing, collaborating, and being able to comment on each other's work enabled these EFL learners to work together and exchange ideas more easily. Also, these features helped EFL learners be in the center of learning. In other words, M-MALL provided EFL learners to be active, when the teacher was more passive in the learning environment. Furthermore, the participants indicated that these features of M-MALL

mobile applications (e.g. *Recap*) enhanced the communication between PSTs and the EFL learners. According to them, these applications provided teachers a platform where they could observe their students' products and give immediate feedback. Therefore, considering these features, PSTs found the applications they used in their M-MALL experiences such as *Recap*, fruitful for boosting participation and interaction among EFL learners. It was also found from participants' indications that applications under the category of 'Video-based Tools' such as *Recap* and *Flipgrid* (very similar to *Recap*, additionally allows leaving video comments) were more helpful in increasing active student participation as they enable EFL learners to record videos simultaneously in the classroom. In other words, students did not need to wait for each other to finish speaking end and they could speak English by recording videos throughout the task. When they finished recording their videos, they could listen to their peers' videos and leave an oral comment by recording another video. Therefore, each student becomes active during the speaking/listening tasks with these Video-based Tools. One of the PSTs states his views as:

> *"Recap is an application used to improve speaking skills. Very helpful in making all students speak. It allows all students to speak and gives them a chance to see how all students speak to improve themselves." (PST16)*
>
> *"For me, the most prominent feature of Flipgrid is that all students can speak while a student is speaking, and all of them can be evaluated by the teacher in a very easy and simple way." (PST16)*

As PST16 emphasizes in his statements, these Video-based tools can help EFL learners to practice their speaking skills by speaking at the same time in the classroom. In already existing traditional classrooms, in which these mobile technologies are not used, it is hard to expect all of the students to answer a question by speaking at the same time. However, as stated in the above quotes, M-MALL enabled all the EFL learners in the classroom to be active altogether.

Lastly, the high school students, who were normally hesitant or not enthusiastic in participating in English tasks, were found to be participating highly in the M-MALL activities. This was observed when these silent students saw how their peers were enjoying the tasks and when they learned how to participate using their mobiles for the assigned M-MALL tasks. The participants stated the following views concerning these silent students:

"For instance, our mentor said that one of the students does not normally participate in the activities, but he tried to attend our class. She (mentor teacher) said he (the student) tried to do something. Of course, we liked this." (PST13)

"I definitely think that it is an application (Kahoot) that increases the participation of students in the lesson and can make the English lesson more enjoyable and understandable. Students often want to answer the questions, which they normally avoid from answering, thanks to this application… When I asked the same questions to the students in person (without an M-MALL tool), I did not get such effective answers. But with this application, most of the students attended the lessons willingly." (PST10)

As seen from PST13 and PST10's statements, M-MALL was found to be successful in helping increase participation even for the most silent students in the class. Thus, it was found that M-MALL had a positive effect on EFL learners' participation in learning activities.

Attention (n=181) was also reported to be increased during M-MALL activities. In most of their reflections participants indicated that M-MALL got students' attention, increased their curiosity, and enabled them to focus on the topic during the lessons. First of all, choosing a nickname to join a quiz (e.g. *Kahoot*), providing multiple modes by supporting activities with pictures, videos or audios as in *HP Reveal*, using individualized answer cards like in *Plickers* to give answers to the questions, providing a competitive classroom atmosphere were among the most uttered situations for attracting students' attention.

"The quiz in the application (Plickers) was linked to the topic of the lesson. Students were very excited and motivated during the quiz. This application enabled every student to participate in the lesson. The students waited eagerly and excitedly for the new questions with their cards in their hands." (PST2)

"One of my female students, when we came next week told me that she had told her family (about M-MALL integrated lesson and Kahoot) and her family found it different. This application was the simplest Kahoot application by the way, but even the simplest sounds really different for them. Because they use their phones, they see it on the board. So it's a little bit like a challenge with her friends. And there is a nickname thing for Kahoot, for example, it attracts a lot of attention." (PST14)

As stated in the quotes above, the participants observed that students were highly attracted by M-MALL integration as this was an extraordinary experience for them in their journey of language learning. It was also found out that the students were so attracted that they talked about this unusual experience with their parents.

PSTs also indicated that M-MALL mobile applications made students more curious about the lessons. For example, the participants mostly stated that *Augmented Reality Tools* (e.g. *HP Reveal)* increased students' curiosity and attention as it enabled a whole new experience for them by augmenting the concepts through pictures, videos and, gifs. How HP Reveal functions are presented in Figure 4.6 below.

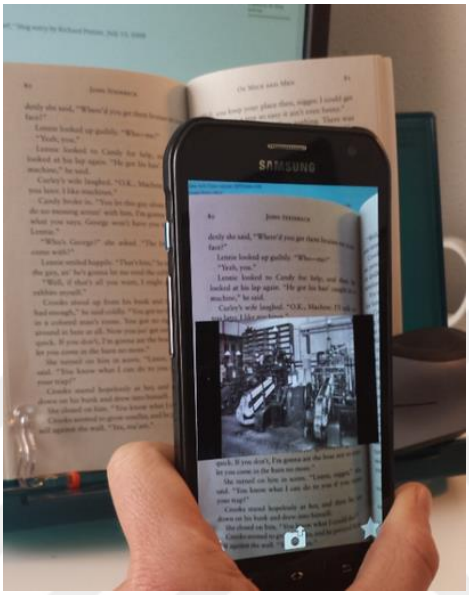


Figure 4. 6. *The functioning of HP Reveal application*

As seen in Figure 4.6, *HP Reveal* requires scanning the environment, which can be a page, a wall or an object, to find the embedded AR items. These items can include a picture, as exemplified in the figure, or video, audio, gif or text. These AR items aim to enhance the comprehensibility by adding multimodality right in the same place without requiring the user to search for this necessary knowledge. In this way, it enables the users a time-saving and practical experience, which is guided by the teachers (i.e. learners are directly guided to the information that they need and are not left alone in the information pollution on the Internet. One of the participants stated the following concerning his experience with this *Augmented Reality Tool*:

> *"With many photos and icons, HP Reveal allows students to visualize the concepts in their minds and attracts their attention." (PST16)*
>
> *"Hidden videos in pictures are interesting to them and keep them focused (HP Reveal)." (PST10)*

As indicated above by PSTs 16 and 10, the use of various visuals and hiding these

visuals in their textbooks made EFL learners curious and attracted their attention in M-MALL integrated lessons.

Creativity (n=69) was also indicated by many PSTs as one of the contributions of M-MALL to the learners' learning. Creativity was referred by the participants mainly for the M-MALL activities that allowed EFL learners to create, produce and express themselves in English. Especially the activities designed requiring the use of Visual-Sketching and Note Taking tools such as *Canva*. As stated earlier, *Canva* is an application to prepare creative posters (see Figure 4.5 for a sample poster). According to the participants, students could benefit from these types of applications to produce creative posters even though they were not necessarily talented in drawing, painting. In this way, high school students were observed to be more productive in M-MALL activities compared to the other tasks without M-MALL during the lessons. They were found to express themselves easily and in a better way with increased use of English structures. Multimodal mobile applications providing an interface with practical design templates such as *Canva*, were found to be the most supportive applications for student creativity and productivity since they require minimum effort and offer impressive results for students' products. One of the participants indicated the following statement:

> *"The student feels comfortable using the application (Canva), creative posters come out with their imaginations." (PST10)*
>
> *"We really notice the creativity of the students with these practices. For example, a student I never expected wrote (a motto/ slogan) so well that he prepared with Canva, I said well done..." (PST8)*

According to PSTs 10 and 8, M-MALL tasks provided learners to use and express their imaginations easily be producing creative answers in EFL tasks. Their potential creativity was revealed better through M-MALL tools and how far their creativity can reach surprised the participants in this study.

Confidence (n=39) was also found to be increased in M-MALL activities. The PSTs indicated that EFL learners feel confident, relaxed, and safe thanks to several factors that M-MALL mobile applications provide during the tasks. These were being anonymous in the activities, being able to revise their answers (especially speeches), learning how to use technology, and being able to research during tasks with these M-MALL tools.

Some of the features of the multimodal mobile applications were observed to be allowing students to participate anonymously. Students felt confident during these activities as stated by participant PSTs. Students were observed to feel safe when they work in groups and collaborate with their friends since they got a chance to benefit from peer learning and hide their own identity under group work. As stated by PSTs, being anonymous also enabled students to feel confident when producing their work through M-MALL applications. As one of the PSTs stated:

> *"When students choose a nickname for themselves, it makes students feel safe (Kahoot)." (PST2)*

Therefore, this result indicates that M-MALL activities help learners be confident by giving them the opportunity to hide their identities during EFL tasks. In terms of speaking activities, *Video-Based Tools* such as *Flipgrid* enabled teachers to assign speaking tasks for their students, which required them to respond in recording videos. Students and teachers can comment on each other's responses by also recording videos, which enhances the practice of the spoken language. Although this application requires recording videos, the students were not forced to show themselves while speaking, as some of the students (e.g. females covering their heads) did not want their videos to be saved online. These students turned the camera to the wall or somewhere else and recorded their voices.

Moreover, these M-MALL tools (i.e. Flipgrid) enabled PSTs to design tasks in which EFL learners could revise their speeches before posting them online in their class groups. The participants stated that allowing EFL learners to hear themselves before posting their speeches helped them feel more confident. One of the PSTs indicated her views on Flipgrid in terms of enabling students to revise their utterances as:

> *"I think Flipgrid gives students the chance (to speak) more than once while improving their speaking skills. During the lesson, you can give a wrong answer to a question asked by the teacher at that moment and this is irreversible, but thanks to this application, if he does not like the video or says something wrong, there is a chance to record a video again. In this way, students will not be discouraged and will be able to develop their speaking skills confidently." (PST9)*

According to PST9, before posting their recorded spoken answers students were enabled to listen to their answers and change their responses if they wanted to change. Therefore, unlike face to face speaking activities in the existing EFL classes, in which students do not have a chance to monitor and change their utterances after they respond,

M-MALL enabled them to listen to their response, monitor their speech, and correct their mistakes, which made high school students feel more confident in speaking activities.

M-MALL was also found to help provide confidence in using technology. The participants indicated that even though the high school students were capable of dealing with the recent technologies especially smartphones, some students were below the average level of this competency. Therefore, introducing them to some multimodal smartphone applications and teaching through these applications were found to be beneficial for the development of students' technological abilities. As mentioned earlier, some of the students even wanted to use these M-MALL smartphone applications for their courses other than English, which shows that these students felt confident during the activities with technology integration. According to one of the PSTs:

> *"The fact that the students stated they could use the new application (HP Reveal / Flipgrid) they learned in different areas (subjects) showed that it was effective." (PST8)*

As PST8 states, EFL learners wanted to use the M-MALL tools they learned to use in English lessons with other subjects. They wanted to transfer their knowledge of using multimodal mobile technologies to other areas of learning. This shows that thanks to M-MALL their knowledge of using multimodal technologies increased and they feel confident enough to transfer and use this knowledge further.

Similarly, PSTs stated that M-MALL encouraged high school students to do research using their smartphones during the activities. The features of M-MALL mobile applications and the use of the Internet during the tasks in the lesson made EFL learners more confident to search for information and increase knowledge on a given topic. One of the PSTs stated her views as:

> *"Canva improves students' creative thinking skills and enables them to research given topic. Thus, students have detailed information about the subject." (PST4)*

As stated by PST4, the EFL learners were observed to research to prepare their posers with the Visual Sketching and Note-taking Tool used in the activity. Although it sounds like it was the feature of this application that enabled them to do research, it was the EFL learners themselves who had to retrieve information using their smartphones' internet browsers to complete their tasks. However, still, it can be said that M-MALL gave EFL learners the opportunity and courage of using their smartphones to accomplish this research.

Contributions of M-MALL on the lesson

A total of 398 codes emerged from the data reflecting PSTs thoughts on the contributions of M-MALL activities on the way the lessons were taught and the classroom atmosphere during these lessons of PSTs in their school practice with high school students. These codes were grouped under four sub-themes and the distribution of codes is presented below in Table 4.5.

Table 4.5. *Distribution of codes according to the main theme 2: contributions of M-MALL on the lesson*

Sub-themes	**N***
M-MALL made the lesson…	
effective	199
multimodal	83
suitable for evaluation	63
economic	50
Total	**395**

N*: Number of codes

As seen in Table 4.5 the M-MALL integrated lessons with high school EFL learners contributed to the English lessons in several ways. The qualitative results demonstrated that M-MALL made EFL lessons *effective (199), multimodal (83), suitable for evaluation (63),* and *economic (50).* These sub-themes were further explained in detail with quotes and various examples from M-MALL tools in the following part. It is again important to underline that even though these M-MALL tools are explained and exemplified below, the aim was not to promote these tools but to support the views behind PSTs statements.

Effective (n=199) lessons were achieved through M-MALL as stated by PSTs in this study. According to the participants, the mobile applications integrated into the lessons led to more effective learning as they reinforced the subject, provided diversity to the lesson, ubiquity, and multimodality.

In terms of reinforcing the subject, M-MALL integration was found to increase the use of target language in the classroom. Students had a chance to practice various language skills such as speaking, writing, listening, and reading. With its multimodal feature, the participating aspect that requires students to actively take part and productivity-based utilities, M-MALL helped EFL learners focus on language skills as much as possible. For instance, the participants stated that applications in the group of

Video-based Tools such as *Recap* or *Flipgrid* enhanced interaction among students, and in this way the use of English increased during the lessons. These applications, as mentioned earlier enabled learners to record their videos for a given speaking task and post them to an online classroom formed in these applications. The students were observed to speak in English more with these applications. Furthermore, as mentioned earlier *Visual Sketching and Note-Taking Tools* such as *Canva* motivated learners to use the target language in the tasks resulting in more effective and increased use of English during the lessons. While in *Recap* and *Flipgrid* the speaking skill is fostered, in *Canva* the writing skill is practiced. Thus, M-MALL was found to be effective in supporting productive skills in language learning. The PSTs indicated their views as:

> *"One student commented on his friend's video with a video in the comment section. I found it more motivating and encouraging for them to speak English even if they spoke ungrammatically (Flipgrid)." (PST14)*
>
> *"The students replied to each other's comments in English and replied to all the posts I added (Padlet)." (PST2)*

The above-stated quotations show that the EFL learners in M-MALL tasks used the target language more as M-MALL encouraged them to speak or write in English. It is very gratifying that EFL learners used English no matter how ungrammatical their utterances were and this showed that their productivity in the target language increased thanks to M-MALL integration.

Moreover, M-MALL was also found to be effective in revising the knowledge of students as the participants indicated that quiz-type M-MALL activities helped their students reinforce what they had learned in that lesson and they were mostly applied at the end of the lessons. Therefore, these activities somehow served as a revision part for students by embodying their knowledge and summarizing the topic. Some of the participants stated their experiences as:

> *"In the warm-up section, I aimed to remind children of the words I taught the previous week by using Padlet. I wrote the pictures of the words on top. First, we showed pictures of the words and repeat them with the children once. Then, using only the pictures of the same Padlet, I asked the students to write 'crimes' for these pictures. The children remembered all of the words, so I think the words were reinforced." (PST 7)*
>
> *"After completing all the stages of the lesson, my friend used this application (Cram) in order to summarize the subject and it was very successful." (PST13)*

"My second application was Cram. I chose this application because I want to relax and amuse the students at the end of the lesson because they learned difficult words throughout the lesson and reinforced what they learned with this game." (PST 14)

The participants also asserted that M-MALL facilitates hard to understand topics by allowing elaboration and embodiment of knowledge. For example, one of the PSTs wrote in his reflection the following statements to his friend's lesson:

"It was very useful to add pictures or videos through this application (HP Reveal) to get them to understand the topics they could not relate in their course books." (PST 16)

As PST 16 highlights, *HP Reveal* was used for visualizing the hard to understand concepts for students as an AR experience in this course. The topic of this lesson was natural beauties in Turkey and the students in this lesson were expected to scan the pictures of these places (e.g. Mount Ağrı, Cappadoccia, and so on) from their course books using *HP Reveal* application. The PSTs, who were the teacher of that lesson, prepared the AR videos and embedded them to the students' textbooks before the lesson. Normally, the textbook only requires students to discuss these places by just looking at their pictures and names. However, thanks to *HP Reveal* students scanned the pictures and watched the videos that informed them about these places. Then, in-class discussions on these places were held. Thus, using an M-MALL application here embodied knowledge and reinforced learning, since students not just did a speaking practice but also listened to the information and gained the necessary knowledge to be able to carry out discussions in the speaking task. Therefore, M-MALL was found to be effective in reinforcing language teaching by the PSTs in this study.

M-MALL was also found to reinforce the subject by providing EFL learners easiness in learning English such as helping them get prepared for the next activity or the next lesson, by supporting them to reach information easily, and by enabling them to use their sensory system better. The PSTs stated their views on these issues as follows:

"Padlet is a very useful application that can be used for brainstorming, warm the students to the subject before the lesson, prepare the environment for teamwork, see all of the ideas together and allow peer correction." (PST3)

"I was happy that it (Padlet) served the purpose in the warm up part. The application made it easier for me to move on to the next activity." (PST3)

"The fact that students scan whenever they want and allow them to access information continuously can be shown among its positive aspects (HP Reveal)." (PST11)

"It (HP Reveal) also enables students to access different information as general culture." (PST8)

"I think it is a good idea to post a video on that topic while explaining the subject, because I thought that both students' interest and attitudes towards the lesson increased and they used their sensory and perception systems better (HP Reveal)." (PST4)

According to the above quotes, M-MALL was found to be providing easiness in learning. First of all, as one of the Interactive Smartboard Tools, Padlet helped learners to get prepared for the subject that was going to be thought in that lesson. Moreover, when used in the warm-up part, M-MALL was observed to be helpful for the transition to the main activity as it gave the opportunities for the teacher and the learners to brainstorm and work altogether. In a similar vein, *HP Reveal* was found to be helpful in easily grasping the topic being covered as it also supported its users in reaching the necessary information whenever and wherever they wanted with various modes. The multimodality of M-MALL tools was also found to be supportive for students' comprehension as it enabled them to use their sensory systems such as listening, watching, and so on with the videos, animated gifs, pictures, and audios that M-MALL tools provided during activities. Thus, this was found to be helpful for EFL students' learning. For example, asking questions to the students adding visuals next to the texts such as in *Padled*, *Edpuzzle* (a platform in which students watch/listen to a script and answer questions), and *Kahoot* increased the comprehensibility of the questions and as PSTs indicated students learned better when they understood more.

Moreover, M-MALL was found to be effective in teaching English by enabling PSTs to use technology at various stages of the lesson. In other words, PSTs stated that there was no limit in integrating M-MALL into a lesson as they used M-MALL mobile applications as part of warm-up, main and follow-up activity, or even assigned homework to students. For example, PSTs used *Flipgrid* application for most of their speaking activities and asked students to record videos during the lesson. The PSTs indicated that sometimes students wanted to continue speaking and recording their videos, but the time allotted for a lesson was not enough for this. Therefore, in order to enhance the productivity of the learners, PSTs assigned the tasks as homework and students continue speaking and interacting with their peers in English at their homes. This ubiquitous feature of these out-of-the class M-MALL tasks via mobile applications provided more effective learning as the learning was not disrupted due to the time-limitations of the lesson.

The ubiquity of M-MALL activities was not only restricted to homework tasks for speaking. As PSTs indicated, to be accessible for a certain time period also fostered the effectivity of M-MALL for learning. For example, one of the 'Online Classroom Tools' *Edpuzzle* application was used in the classroom, but the participants stated that this application could also be accessed later by the EFL learners so that they could continue practicing their listening skills. One of the PSTs stated the following:

> *"While watching the video, I think that having the opportunity to get feedback directly from the student by asking questions and providing accessibility for a certain time period makes the application (Edpuzzle) more attractive." (PST11)*

As stated by PST11, students could log in to *Edpuzzle* and watch the videos and answer the questions whenever and wherever they wanted. Similarly, *Augmented Reality Tools* and *Interactive Smartboard Tools* were also found to be highly effective in supporting out-of-class language learning as students can have access to the tasks prepared in these tools all the time.

Multimodality (n=83) was found to be another contribution of M-MALL to have effective EFL lessons. PSTs indicated the benefits of M-MALL tools such as providing audio-visual support to high school students' understanding and fostering their knowledge with both oral and written modes. According to the participants, M-MALL offered students a real-life environment in which they benefit from various modes as they do in their daily lives for meaning-making. More specifically, they asserted that it allowed everything to be presented together with its multimodal aspect. The PSTs views on these issues were exemplified below:

> *"The HP Reveal app is the ideal app to present virtual reality to students. With this application, we can easily present situations that are not possible. We can easily integrate a simulation technique." (PST8)*
>
> *"It is a system that allows students to be more interested in classes, perhaps linking the classroom atmosphere with daily life and revealing meaningful learning." (PST10)*

As these PSTs stated, the reality around us can be presented to the students in the classroom through multimodal applications. For example, a person in real life can benefit from various modes when he visits a new city and tries to learn about that place. First, he benefits from the visual mode as he sees the building, trees, roads, and so on. Then, if he is with someone who knows that place, he listens to him to get some information such as history, geography, or culture. After, he reads signboards or city brochures benefiting from the linguistic mode. Furthermore, he also benefits from

spatial mode as he travels around the city. Therefore, all these modes people use without being aware help their comprehension. M-MALL was found to provide this opportunity to benefit from various modes in the lessons while trying to learn English. For example, as explained in detail above, *HP Reveal,* one of the *Augmented Reality Tools*, helped students understand the natural places of Turkey through short videos embedded and helped them gain the necessary knowledge to speak in English. Similarly, *Quiz Tools* like *Kahoot* also provided multimodality in the question with audio-visuals and helped students understand the question better since in real life people can benefit from visuals to understand a question. How this multimodality was provided with these M-MALL tools in the language classes was indicated by one of the PSTs as:

> *"In addition to preparing questions on the subject, adding visuals and videos to the application (Kahoot) make teaching more effective." (PST13)*

According to the participants as exemplified in the quote above, being able to use audio-visual elements in the question made it more comprehensible and the teaching more effective. For example, a person in real-life can ask a question like 'What kind of a bird is a Tucan?' pointing a bird. The person who is going answer can look at the bird and give an answer and benefit from various modes there. In a similar fashion, the multimodality in the questions of M-MALL Quiz Tools helped learners benefit from various modes to understand and answer the questions. Thus, multimodality of M-MALL tools was found to contributed to the lesson according to the PSTs' experiences.

Suitable for evaluation (n=63) was another aspect stated by the participants of this study who thought that M-MALL activities enabled them to evaluate their students to understand how much they understood and learned from the lessons they carried out. In M-MALL tasks PSTs were easily able to track their students' progress, detect their problems in comprehension, identify the points that needed elaboration, and give individualized feedback for each student to improve their learning. PSTs indicated that the interface of these M-MALL mobile applications enabled them to achieve all these during the lessons they carried out. For example, Quiz Tools like *Kahoot* and *Plickers* are specifically designed for measuring students' performances and the PSTs used these applications mostly in their follow up activities to evaluate their students' comprehension of the topic or they used these applications in their warm-up activities to see how much the students remembered from their previous lessons. Some participants stated their views as:

"This application (Plickers) can be easily used in subject or unit evaluations to check students' prior knowledge". (PST13)

"It was good to see the students' answers instantly and the feedback was very nice, I was happy to see who did it right and it was good to see if they understood the subject at the end of the lesson (Kahoot)." (PST12)

As the PSTs 13 and 12 indicated above comprehension checks were easily done with these M-MALL tasks. When compared to the usual comprehension checks that teachers normally do in EFL lessons without M-MALL, these tools enable teachers to see all the learner progress together using one tool which reveals the results very fast. Furthermore, when asked a question to measure understanding in the classical assessment and evaluation methods, it takes time for students to answer the question and only those who dare to answer the question by raising a finger or to answer in front of the class could be understood. However, thanks to M-MALL, students can participate in this assessment and evaluation process in a very motivating way with their nicknames with such Quiz Tools. This allows PSTs to get real results about how much students have learned.

Additionally, PTSs stated that other M-MALL mobile applications such as *Flipgrid* and *Recap*, which were grouped under 'Video-based Tools' and aim to help students practice their speaking and listening skills, also enabled them to do an evaluation of their students' performances and give individualized feedback. A sample screenshot from how this type of feedback was given in *Flipgrid* is presented in Figure 4.7 below.

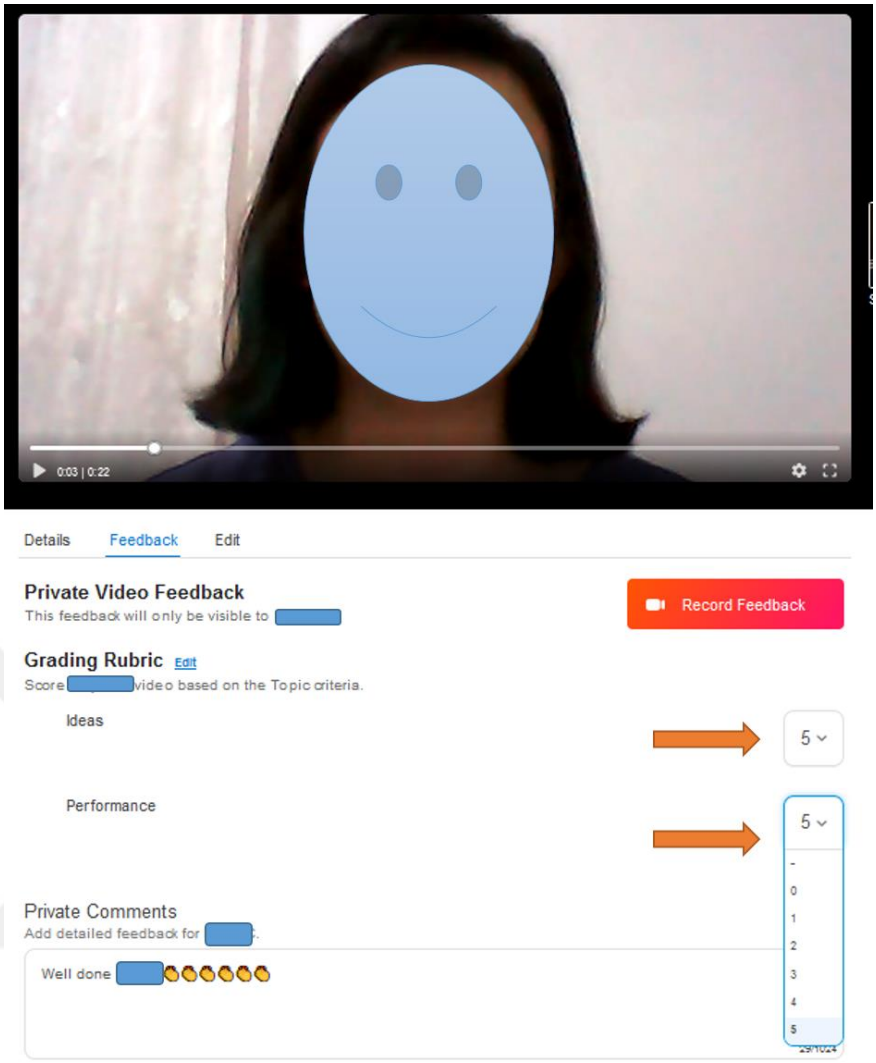


Figure 4. 7. *A sample feedback page from Flipgrid application*

As seen in Figure 4.7, the teacher can evaluate the ideas presented in the video using a scale from 1 to 5 and also evaluate the performance of the speaking using the same scale. Moreover, the teacher can leave private comments for the student's performances. All this feedback given by the teacher cannot be seen by other students. PSTs in this study found this evaluation very practice for teachers. Furthermore, they indicated that being able to leave comments (for both teachers and students) was a beneficial feature allowing students to get both teacher and peer feedback for their speaking performances.

Furthermore, *Edpuzzle*, in which the students are expected to answer questions during listening, was also stated to be helpful in a similar fashion. One of the PSTs explained her view as:

"We can both help students understand the subject better and measure who has learned what, how much, by looking at the answers given by the students. I think that Edpuzlle is a very effective application in this respect." (PST4)

As seen from PST4's statements, Online Classroom Tools were found to help evaluate students' performance by enabling PSTs to assess their students' performances by evaluating them on a rubric embedded as features of these tools. Thus, PSTs did not need to prepare score sheets to evaluate their learners' progress and used these functions of M-MALL tools readily provided for them.

Economic (n=50) lessons were held through M-MALL as stated by PSTs. According to PSTs MALL helped them save time, material such as paper and pen. They stated that the course objectives are covered in a faster way with an M-MALL task when compared to a task which is not designed with M-MALL:

"My friend showed the subject and his activities on 3 different boards. In this respect, Padlet is a very economical application. My friend both saved time and just needed the phone and internet in his class." (PST3)

As stated by PST3, the lesson was covered by using one of the Interactive Smartboard Tools in which three separate topics –which normally requires the use of whiteboard three times and more time to cover- into one Padlet wall. Thus, by using M-MALL the PSTs saved both time and effort in the EFL lesson.

Furthermore, M-MALL helped PSTs to integrate all the learners into the activities by giving all of them the opportunity to use the target language and do the tasks during a lesson hour. For example, *Video-Based Tools* like Recap and Flipgrid enabled students to participate in the speaking activity at the same time, and also these recordings of students could be watched and evaluated in the same lesson which helped save time as well. One of the PSTs indicated this as:

"Recap allows students to participate in the class by simply entering their name and class code. This allows us to save time." (PST16)

Similarly, *Augmented Reality Tools* like HP Reveal enabled students to scan and get extra information about the topic being discussed without having to type in a link or search for the necessary information on search engines. This also provided opportunities to use the given lesson time economically.

M-MALL was also believed to provide practicality to the preparation of the lesson as the teacher did not need to spend time on paper and pencil work before the lesson. Similarly, during the lesson, the high school students did not need to spend time on

necessary equipment to complete the tasks. M-MALL mobile applications helped students produce something, even though they did not have the necessary materials for it. As the participants stated, *Visual Sketching and Note-Taking Tools* helped students create colorful and effective poster designs or multimodal written texts without any pens, pencils, or big papers. For instance, *Metamoji Note* enables its users to take notes, write documents, sketch ideas or annotate pdfs by using audio-visual elements provided by the applications to enhance meaning-making (See Figure 4.8). Also, learners can share their work in a practical way.

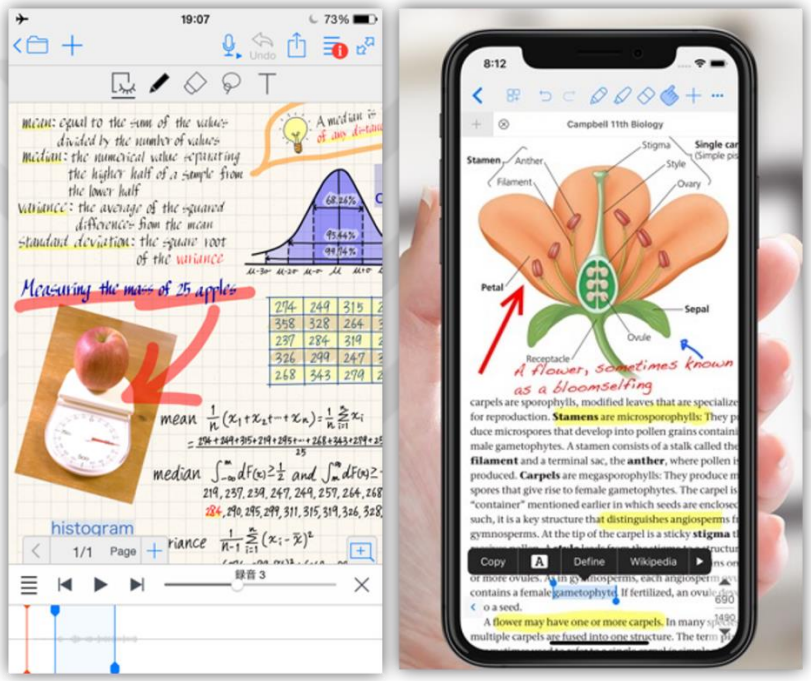


Figure 4.8. *A sample Metamoji Note page*

The PSTs indicated their views on the practicality that these tools provide as:

> *"The ability of students to produce designs without wasting time and without using materials such as cardboard and pictures while creating something is very effective and very useful in terms of using time as it eliminates the preparation stages such as drawing, cutting and pasting (Cram)." (PST4)*
>
> *"I think it's pretty easy for quick note-taking or poster making. In addition, the ability to share it with other people for free is another plus aspect (Metamoji Note)." (PST11)*

As stated by PST4, using M-MALL Quiz Tools provide practicality for them in the preparation process of multimodal quizzes. Similarly, in terms of learners, M-

MALL was found to be practical in saving time and course material staff for both students and the teachers as they provide opportunities for EFL learners to write, sketch and share very quickly compared to the usual writing activities which require a long time to do these things.

Effects of M-MALL on PSTs' feelings

Pre-service teachers in this study also reflected on the effects of M-MALL activities on their feelings. 345 codes emerged from the data concerning for to PSTs' reflections on the effects of M-MALL activities on their feelings during their teaching experience. The codes were categorized under two sub-themes including both positive and negative feelings towards M-MALL. The sub-themes and the distribution of codes are presented in Table 4.6.

Table 4.6. *Distribution of codes according to main theme 3: effects of M-MALL on PSTs' feelings*

Sub-themes	**N***
PSTs had…	
positive feelings towards M-MALL	298
negative feelings towards M-MALL	47
Total	**345**

N*: Number of codes

As seen in Table 4.6. there were both *positive (298)* and *negative (47)* effects of M-MALL on PSTs' feelings. Furthermore, the positive feelings were found to be exceeding the negative feelings to a great extent. How PSTs felt during M-MALL experiences were further detailed with quotes below.

Many feelings arouse in PSTs with their experience integrating M-MALL into their lessons during School Practice. Participants frequently stated that they were *happy, motivated,* and *comfortable* during the lessons with M-MALL integration. According to PSTs' reflections, they felt happy when they started to realize that students were participating in the activities and having fun. Moreover, as they saw their students' eagerness and their answers in M-MALL tasks they felt motivated to use M-MALL in their future lessons as well. Even though PSTs stated that students went through an adaptation period with M-MALL when they first encountered it, as students learned how to use M-MALL mobile applications, PSTs indicated to feel more *confident* during

their lessons. Furthermore, if PSTs themselves were using the same application for the second or more time, they also felt *confident* in M-MALL activities. Along with these positive feelings depending on mostly student participation and M-MALL mobile application use, participants indicated that they *enjoyed* a lot within this experience. One of the PSTs indicated her feelings as:

> *"When using Flipgrid application, the students' discussing what to say in the video makes me happy and motivated. To see them strive for something, to see that your effort is not wasted, and to watch the products they produce, the expression of 'we did' on their faces madee us both proud and increase our desire in this profession." (PST7)*
>
> *"I was really happy to see the students' efforts to answer questions quickly and correctly to win the game. Lessons in student-teacher interaction are very different. This situation is very important not only for the student but also for the teacher. I've realized this once again. Their willingness to attend made me feel better during class." (PST10)*

These statements demonstrate how positively the PSTs in this study were affected by M-MALL experience, and how this experience affected their views on teaching. The participants also stated that they felt *excited* and *proud* in their lessons. In a similar fashion with their students, PSTs were also using M-MALL for the first time in real classroom settings. Thus, they indicated similar feelings that they observed with students. According to their reflections, as more students participated in the M-MALL activities, the more excited they felt. Furthermore, the PSTs indicated that they are surprised to see how proficient their learners in adopting and using mobile technologies in the lessons. One of the PSTs her surprise as:

> *"Their enthusiasm and creativity increased my willingness to use technology in a useful and correct way. I am surprised to see how good and effective the children, who are growing with technology in our age, are at using them (M-MALL mobile applications)." (PST5)*

The participants' feelings were found to be all related to each other and with students' feelings creating a path for other positive feelings during the lessons. However, there were few negative feelings stated by the participants concerning the way they integrated M-MALL. According to participants, they felt *nervous* at the beginning of the lessons, since they were not sure about students' reactions to M-MALL and whether or not the students would download M-MALL mobile applications and participate in the lessons. However, as they realized that students were eagerly participating in M-MALL activities, they indicated that their *hesitance* and *nervousness*

faded away. PSTs also stated that they felt in this way when they saw that students had not downloaded the necessary applications on their phones. One of the participants expressed her feelings as:

> *"At the beginning of the course, my friend was upset that the students had not downloaded the application. So I felt a little nervous. After that, I was happy to see the students download the application during the lesson and to participate willingly." (PST3)*

Even though PSTs experienced this negative feeling, it did not last long and the students' willingness and participation helped PTSs overcome their negative thoughts. Participants also stated some other negative feelings such as being *unhappy* and *demotivated.* According to PSTs' reflections, they felt in these ways when there were technological problems such as internet connection or problems related to the applications' interface. However, PSTs overcame those problems during the lessons and they stated several suggestions that can be applied in case of a technological problem during M-MALL activities in the class.

Prerequisites of M-MALL integration

The participants of this study stated some prerequisites to have more effective M-MALL integrated lessons. According to them, if these prerequisites are reassured during M-MALL integration, then better outcomes could be obtained in terms of teaching and learning the target language. A total of 236 codes have emerged from the qualitative data indicating the prerequisites of M-MALL activities. These codes were grouped under two sub-themes and the distribution of codes is presented below in Table 4.7.

Table 4.7. *Distribution of codes according to main theme 4: prerequisites of M-MALL*

Sub-themes	**N***
M-MALL activity's success is affected positively by ….	
appropriateness of the application	139
familiarity with the application	97
Total	**236**

N*: Number of codes

As illustrated in Table 4.7, M-MALL activity's success is affected positively by the *appropriateness of the application (139)* and both PSTs and the EFL learners'

familiarity with the application (97). These conditions were further explained and exemplified below with PSTs' quotes from their reflective diaries and the interview.

Appropriateness of the application (n=139) was one of the prerequisites of M-MALL integration stated by the PSTs in this study. Several factors were stated to be effective in having a successful M-MALL integration process in EFL teaching. These factors were highlighted by the participants as applications' easiness, addressing multiple skills, accessibility, and rich functionality.

First of all, the participants stated that M-MALL smartphone applications were found to have a positive effect on the lesson if they were easy to use. Both the PSTs and the students felt comfortable with the applications that had easy to follow interfaces and needed minimum or no extra technological requirement such as large storage in the mobile phones or a big internet package for downloads. The views of PSTs on this issue can be quoted as:

> *"I think it is an application (Plickers) suitable for use when students do not need a phone or do not need the internet while browsing on the phone." (PST11)*
>
> *"Metamoji Note is an application that does not require internet and this can be considered as an advantage." (PST15)*

As stated by the participants above, these tools helped M-MALL to be implemented smoothly without any problems occurring due to lack of equipment or the internet. Similarly, when the M-MALL application was compatible with the smartboard, participants stated that they also opened the application on the smartboard to get access and demonstrate student performances to share with the class. In this way, the learner again did not need extra internet package to share their answers as they were shown on the smartboard automatically.

PSTs indicated that if the applications they used were multifunctional, then this affected the success of the task positively. In other words, if the application allowed its users to practice several language skills at the same time, then high school students learned and practiced the target language structures better. Furthermore, the participants stated that M-MALL was helpful in both practicing language skills in a compact way and creating student products during the lesson. For example, while M-MALL was found to be useful for students to prepare posters and take notes at the same time, for teachers they enabled PSTs to form an online platform for their students, give homework, and assess students with a single interface. The rich functions of the

applications were also referred to as providing tools for note-taking, sharing, preparing a platform for brainstorming (e.g. *Padlet*), and preparing lists, etc. and participants stated that with all those functions it was easier to address various language skills. One of the PSTs reflected on this issue as:

> *"You can create a virtual dashboard through Padlet and write the information you want to on this dashboard. You can also get ideas from your students, have them do mental gymnastics, create lists, create a discussion environment. I think it is a useful application in this respect." (PST11)*

According to PST11, it was important to choose a multifunctional mobile application that included various functions since these functions helped her convey more a more fruitful lesson in which all of the students were actively participating in the task. Along with this, the multi-functionality, being able to use these tools with different levels of learners thanks to the above-stated functions were considered as a positive factor by the participants since in some classrooms there were students in slightly different proficiency levels in English. Thus, being able to reach and integrate them into the activities were highlighted to be quite useful.

In addition to the applications being multifunctional, being able to access these applications easily was found to be effective in the lesson's success. Cost-free applications were considered better for having successful lessons since all the students were able to download the necessary application for the task and to participate in the activity. Furthermore, as the participants stated, if the M-MALL mobile applications were not restricted for a specific operating system or did not have extra technological requirements on the smartphones, then they were more likely to be useful during M-MALL activities.

> *"We do not see the problem of not functioning in every operating system, which is one of the biggest problems of mobile applications, in this application (Metamoji Note). It can be accessed from Google PlayStore and AppStore." (PST11)*

All in all, according to PSTs, who experienced M-MALL in actual teaching environments with high school EFL learners, if M-MALL mobile tools were easy to use, if they addressed multiple skills with their various functions, if it was easy to access these tools in various download platforms such as Play Store or AppStore, then it would be highly possible to have successful M-MALL integration. Thus, better outcomes were achieved when all these were taken into consideration in M-MALL.

Familiarity with the application (n=97) was also found to be important for having a successful lesson with M-MALL. PSTs stated that the high school students were already accustomed to the recent technologies and once they were exposed to an M-MALL mobile application during an activity, the next time it was easier to use that application with them. Similarly, the teacher's experience with the application was indicated as an important condition for having a successful lesson with M-MALL integration. PSTs highlighted the importance of being able to choose a suitable application for their activities and give clear instructions. PSTs noted that similar to students' familiarity, if it is the second time that the PSTs were integrating M-MALL mobile application into their lessons, then the lesson was more successful in achieving its course objectives since the PSTs knew how to handle with the application during the activity. Moreover, as the time passes, PSTs indicated that they were more capable of choosing a suitable mobile application for their M-MALL activities and giving clear instructions because they became more experienced in using M-MALL in the classroom and knew anticipated problems and possible solutions. The PSTs indicated their views as:

> *"We felt comfortable as it was our last lesson, and now we became familiar with these mobile applications (Cram) by both observing and teaching (M-MALL lessons) and we reached a level that we can easily use in a normal lesson." (PST1)*
>
> *"This week my lesson and students' understanding of what they have to do were easier and more fluent. I think such a development has occurred both because of my experience and because of the difference in class dynamics (HP Reveal)." (PST7)*
>
> *"Since I have used this application before, I think it is still suitable for class use. I had a few difficulties in the first week. Some stages of the application (Metamoji Note) were difficult. But when I used it for the second time, I realized that it got easier and I could integrate it into the lesson more easily." (PST11)*

As understood by the above-quoted statements of PSTs, it became much easier to integrate M-MALL and use multimodal mobile tools when both themselves and the students became more experienced as time passed. This shows that both PSTs and the learners learned how to use these M-MALL tools for teaching and learning purposes, got used to their interface, and even got used to having lessons with multimodal mobile technologies. Thus, this integration can be considered as M-MALL being transformed into a usual teaching material like a pen or a paper. Therefore, for successful conditions in M-MALL learning this transformation is somewhat needed.

Students' intertwining with technology was also indicated as a significant factor for having a successful M-MALL integration. The participants stated that since the language learners were accustomed to using their smartphones in their daily lives for various reasons, it was easier for them to use their smartphones during the activities with M-MALL. As one of the participants indicated:

> *"I can say that Flipgrid is actually a type of application that today's students are very familiar with. I think its similarity to the story feature in many applications such as Instagram is enough to attract students' attention." (PST11)*

According to PST11, it was easy for her to attract EFL learners' attention as the application she used in the lesson resembled to social media tools that students frequently use in their daily lives. The participants indicated that they did not need to motivate the students to use their phones and do the tasks as they were already motivated for this situation.

Problems in M-MALL integration

Although M-MALL's contributions to foreign language teaching and students' learning and on the positive feelings have been mentioned so far, prospective teachers have also encountered some problems during these practices. As a result of qualitative data analysis, 144 codes were emerged indicating the problems that PSTs came across while integrating M-MALL into English language classrooms. These codes were grouped under three sub-themes. The distribution of codes and the sub-themes are presented below in Table 4.8.

Table 4.8. *Distribution of codes according to main theme 5: problems in M-MALL integration*

Sub-themes	**N***
Problems encountered during M-MALL activities due to…	
technical problems	60
student-related problems	45
school-related problems	39
Total	**144**

N*: Number of codes

Table 4.8 demonstrates the types of problems that PSTs encountered during M-MALL integration. According to the participants, they mostly had problems related to

technical issues (60). PSTs also indicated to have student (45) and school (39) related problems. These problems were further explained below.

Technical problems (n=60) were stated to be the most encountered problems among all the problems that PSTs experienced during M-MALL integration. First of all, the PSTs stated that some students did not have smartphones, or did not bring their smartphones to the school even though PTSs told them they were going to have activities using smartphones. Furthermore, participants also added in their reflections that most of the students did not have enough quota for internet connection. Thus, PSTs had to share their internet with the students. However, there were still problems with the connection, since only a limited number of smartphones can connect to a smartphone for internet connection. Besides, some students' smartphones did not support the infrastructure of the recent mobile applications causing some problems such as not being able to open the links or watch the videos embedded in the application. Moreover, the PSTs stated that they wanted to show students' performances (responses for the activities) from the smartboard or open the application on the smartboard to track the collaborative work of the students (e.g. in mind map M-MALL mobile applications), but the schools' internet connection did not allow PSTs to open these applications' webpages due to some safety restrictions on the internet in Turkish schools.

The technical problems stated by the participants were also related to the interface of some of the selected mobile applications for M-MALL activities. Some applications such as *Mind-mapping Tools* were stated to have an interface in which navigation was quite difficult and caused students to spend too much time on figuring out how to use the application. This was especially experienced by PSTs for Mindomo application which is used for constructing a collaborative online mind-map. This application enables its users to connect to a mind-map page in which they can add audio-visuals and texts to form a map together. A sample page from Mindomo is presented in Figure 4.9 below.

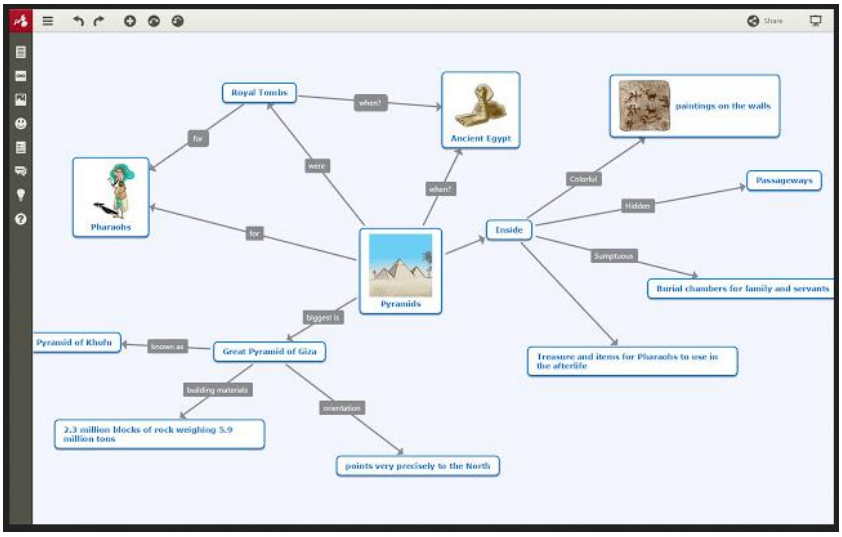


Figure 4.9. *A sample Mindomo page*

For some students, it was hard to understand what to do with this application and they could not complete the task designed with this type of a tool. One of the PSTs indicated her views as:

> *"Mindomo was very difficult to use, considering the time of the course, student profile and classroom dynamics. During the main activity using the M-MALL application, the students could not understand what to do and this caused some confusion. Class management has become difficult." (PST3)*

As PST3 indicates, class management had become hard as the mind-map page could be navigated by all the students connected to the page. When all of the students wanted a change in the map, the application collapsed and it became difficult to manage the classroom and take care of the application at the same time for this PST. Since the EFL learners could not figure out what and how they were going to do, this collaborative mind-map preparation turned into chaos for the PST and the students. Thus, these Mind-mapping tools were found to be hard to implement in crowded language classrooms.

The PSTs also indicated that sometimes the M-MALL mobile applications could cause some problems such as a need for a higher version for some features needed for the activity or temporary problems in connecting to the application. PSTs stated several technical issues concerning the M-MALL mobile applications they selected. First of all, some applications did not meet the needs and expectations of PSTs as stated in:

"I wanted the students to see each other's posters. This application (Cram)did not provide me with this." (PST5)

Second, some applications needed upgrade from the PSTs requiring payment as in:

"The problem I encountered was that it (Plickers) wanted to upgrade some features. Like the question sets are limited to 5 questions." (PST11)

Third, some applications had restrictions on their features which were just open to teachers as in:

"After I prepared the application, I realized that my voice in the voiceover part of EdPuzzle can only be heard with the teacher account. As a result, I uploaded the video to EdPuzzle by doing a voiceover with another program so that the problem was solved." (PST16)

According to the quotes above, some PSTs found some M-MALL tools not useful for their teaching, but these problems were rare. Moreover, the above-mentioned tools were used by various PSTs in this research through their M-MALL experiences. While some of them stated such problems, many of the PSTs did not indicate any problems concerning the very same tools. It can be said that the experience with M-MALL tools can vary according to PSTs, EFL learners, and even the M-MALL tasks designed with them. Thus, technical problems may change considering the context they are used in.

Student-related problems (n=45) were also encountered during M-MALL activities. As stated by the participants some of the students used their smartphones to deal with other things such as social media during the course. Participants stated that after they warned the students, they stopped dealing with other things. Additionally, PSTs indicated that some students sabotaged their M-MALL activities by writing inappropriate words or sentences especially with applications providing a collaborative online classroom atmosphere and a dashboard. One of the PSTs stated the following memory during the interview:

"This happened in one of our friends' lesson. There was a little bit of blasphemy, it was reflected on the board, and this is because it is an application that allows you to log in anonymously instead of logging in with an e-mail address or a social account when you log in to the Padlet. The kid thought that he would not be seen, he was anonymous anyway. I think this is an issue that needs attention." (PST16)

Although PSTs experienced such unpleasant situations during their M-MALL integrated lessons, the PSTs indicated that by warning them they overcame such problems.

Another issue indicated by the participants was that the students were reluctant for getting engaged with M-MALL mobile applications. PTSs indicated that students showed reluctance for speaking and writing activities, but this unwillingness was asserted to be the result of not wanting to produce language items instead of not wanting to use M-MALL. One of the students stated the following in her reflections:

> *"Edmodo was the app I preferred to use this week to teach. My aim was to do a writing task with the students using Edmodo. I can say that my practice has partially achieved its purpose. There was no practical problem, but the children were reluctant to write. I think this makes the course less efficient." (PST7)*

According to PST7, the students' reluctance to do the tasks was related to the task itself instead of using their smartphones as she indicated that she partially reached her aim. The unwillingness of students to write in English negatively affected M-MALL integration.

Lastly, the participants reflected in their diaries that the EFL learners' low language proficiency levels caused some problems during M-MALL activities, though the number was low. Since students had different foreign language proficiency levels in a class, completing M-MALL tasks was problematic for some students as they had problems in using the target language in the M-MALL tasks. It was observed that these students could not participate in or finish these activities.

School-related problems (n=39) were also encountered by the PSTs in their experience with M-MALL. According to PSTs, to implement M-MALL into teaching English, one class hour was not enough. Some of the participants stated that it took time to get students to be prepared for the M-MALL activity since they needed to download or get accustomed to the interface of the mobile application selected for the activity. However, PSTs indicated that once the students were accustomed to the application it was easier to settle down for the activity in the following lessons. Furthermore, some other time-related problems were encountered since some language learners needed time to finish their assignments on their smartphones or they wanted to pursue this experience as they find it enjoyable and different from their usual class flow. PSTs were supposed to prepare and implement one lesson hour, which was 40 minutes, with the students and indicated that it would be better if they had a chance to continue their activities in the next hour. One PST stated the following views concerning the requirement of a longer course time allotted for M-MALL activities:

> *"I went near the students one by one and explained how to make it (Edmodo). Since this phase took some time, most students either did not complete the e-mail or did not have time to write. I think that this type of writing should not be in a single lesson, but at least two lesson-time should be allocated, then they will be productive. In this respect, students did not have the opportunity to practice writing skills in a single course." (PST7)*

As PST7 stated in this quote, time could be a problem for M-MALL integrated writing tasks. According to her, this skill requires a longer time to be covered in the class so with the use of M-MALL tools this time needs to be much longer. Although most of the PSTs indicated that M-MALL was time-saving and as the time passes it became quicker to start M-MALL tasks as both themselves and the students were used to the application, this PST's above-stated quote shows that with some M-MALL tools and for some specific language skills M-MALL integration may require a longer period of time to have more fruitful outcomes.

Another problem stated by the participants was the crowded classrooms, the participants noted that it was hard for students to record speaking videos in the classroom with too many students doing the same thing at the same time. Furthermore, they indicated that sometimes they could not reach all of the students in the classrooms when they had problems in using M-MALL mobile applications for the tasks.

Considering all those problems that were experienced by the participants, some suggestions were given to be taken against these problems during M-MALL activities in the classroom. These suggestions mainly include the precautions for technical problems. However, PSTs also gave suggestions for increasing the comprehensibility of M-MALL activities for students.

In order to deal with technical problems, the first suggestion that PSTs made was having a Plan-B in which the activities are carried out without integrating technology. The participants indicated that they considered possible problems during the preparation period of their M-MALL activities and thought about the possible solutions that they could do in case of a technical problem such as lack of internet connection. These possible solutions for this problem included sharing their internet with the students or working in groups to integrate students who do not have smartphones. However, as mentioned earlier, sometimes this could not be a solution to the problem. Therefore, PSTs offered that a teacher should also be prepared for the same activity without integrating M-MALL. Although these cases were very few during M-MALL

experiences of PSTs, it was useful to be able to switch between mediums in case of technical problems.

The participants also suggested paying attention to time management during M-MALL activities since some of them had problems in covering the lesson within the time limits. For this, PSTs suggested supporting their students in M-MALL tasks and form groups during the activities, which were considered as interrelated to each other. They indicated that students should be supported by the teacher if they have some confusion about how to use M-MALL mobile applications and this saves time, also peers can help each other in figuring out the application and the activity, which is also a time saver.

Another main problem that aroused during the M-MALL activities was the Internet connection. During M-MALL integrated lessons the PSTs shared their internet with the students, which was also stated as a suggestion by the PSTs. However, the PSTs indicated that this is an issue that cannot be solved by teachers' sharing their internet since smartphones have restrictions on the number of the phone that can connect at a time. Therefore, some PSTs suggested the internet to be provided by the schools during the activities that require an internet connection in the classes.

Lastly, some problems during M-MALL activities occurred due to students' lack of understanding of the applications or tasks with these applications. The PSTs suggested enhancing the comprehensibility in M-MALL activities by highlighting the importance of giving examples to students so that they could understand how to use M-MALL mobile applications and how to do the activity. For example, the teacher could do the first task with his smartphone using the application and show each step he takes to complete the task. Additionally, teachers can give simple and clear instructions while assigning the M-MALL tasks to the students since sometimes students may be confused due to instructions even if they know how to handle the application. Moreover, selecting simple and clearer images in M-MALL activities was also suggested by the participants, because the resolution features of the smartphones differ from each other and some big-sized images may not be opened or seen clearly during the activities by the high school students. All of these suggestions made by PSTs, who experienced M-MALL in the real classroom environments, aim to have a productive and smooth M-MALL experience.

The results presented here showed that M-MALL had many contributions to the language learning process and PSTs had mainly positive experiences with M-MALL integration in their lessons at their practice schools. Furthermore, the process they had with M-MALL demonstrated that, although very few, there can be some problems that need to be taken into consideration while applying M-MALL to language learning tasks. This section presented the results of both quantitative data analyses retrieved from MLPS and qualitative data analysis of data-led reflective diaries and semi-structured focus group interview. These results will be discussed referring to the results of previous studies conducted in the field in the next section.

4.4. Discussion

The current study on M-MALL integration into pre-service teacher education has a mixed-method research design and data were collected both quantitatively and qualitatively throughout the study. The data collection tools and instruments were developed and implemented in the pilot study before the actual study. According to the results of this piloting, these tools and instruments were improved and prepared for the research. A training model and a booklet to be used in each step of this training were designed and finalized through the results obtained from this pilot study.

The study had two main aims; first, developing and implementing training on M-MALL integration and investigating PSTs' views on this M-MALL training; second, obtaining PSTs' perceptions towards M-Learning and M-MALL integration through their actual teaching experiences. In order to understand the participants' perceptions of the training they received on M-MALL, they were asked to write reflections after the training process. According to PSTs, this training was found to contribute to their teaching and the content was found to be satisfying enough to understand the M-MALL integration process. For the second aim of this study quantitative data were gathered through Mobile Learning Perception Scale (MLPS) and qualitative data were gathered through data-led reflective diaries that the participants wrote after each of their lessons and after each of their peers' lessons with M-MALL integration and a semi-structured focus group interview was implemented at the end of the whole process. The quantitative data analysis demonstrated that PSTs had high levels of positive perceptions towards M-learning prior to the study and these levels even increased more

after the whole process. The qualitative data analysis of the reflections and the interview upon examining PSTs' perspectives on M-MALL showed that M-MALL integration into English language lessons of high school students provided many contributions to the EFL lessons and the high school students' learning. Furthermore, the PSTs carrying out lessons with M-MALL mostly stated that they had experienced various positive as well as negative feelings during these activities. Also, they stated as a result of their experiences that there were some prerequisites for M-MALL activities with which these lessons were more productive. Lastly, the participants highlighted some problems that they went through during the implementation of M-MALL in the classroom. Each of these findings is discussed under the sub-titles referring to each research question of the current study.

4.4.1. M-Learning perceptions

The first aim of this study was to investigate the perceptions of EFL PSTs on mobile learning in general. In light of this purpose, the Mobile Learning Perception Scale was applied to prospective teachers at the beginning and at the end of the 12-week process, which includes M-MALL training and PST's Teaching Practice experiences. The perceptions of PSTs were quantitatively examined. The results revealed that PSTs had high levels of positive perspectives towards M-learning at the beginning of this process, and this positivity in their perspectives increased even more at the end of the study and made a significant difference. According to these quantitative results, it was found that PSTs perceive M-learning as beneficial for facilitating language skills, learner motivation, interaction, and teacher-learner/ learner-learner engagement as well as providing ubiquity in learning. Similarly, Al-Jarrah et al. (2019) found out in their qualitative research that English teachers viewed M-learning helpful for student engagement and motivation as well as elementary students' language skills. Furthermore, increased collaboration (Aygül, 2019), student participation (Barnes, 2018), vocabulary and pronunciation skills (Hişmanoğlu et al., 2017), communication, and ubiquity (Öz, 2015) were also among the perspectives of EFL pre and in-service teachers towards M-learning.

Barnes (2018) stated that EFL teachers are familiar with these mobile tools and use them in their daily lives. As a generation that grew up with technology and

especially with the widespread use of smartphones in the recent period, PSTs are expected to develop positive perspectives as individuals who know mobile technologies well (Altamimi, 2017). Therefore, EFL PSTs intertwining with technology for their daily activities might be the reason for their positive perceptions of M-learning. However, regardless of knowledge about the use of mobile technologies, the integration of these technologies into English language teaching requires separate skills and knowledge (Kuru Gönen, 2019). In order to develop this knowledge and skills, it is very important to provide EFL PSTs with a subject-specific education on both knowledge and practice (Zhang & Deroo, 2020).

According to Aljarrah et al. (2019), personal use, technology expertise, training, and teaching experience are all correlated with teacher beliefs and attitudes. For these reasons, unlike previous studies, this study presented a training process on M-MALL integration into PST education, and as a result of this training process, it provided opportunities for applying necessary knowledge and skills. The qualitative findings regarding the training process also supported the prospective teachers' M-Learning perspectives obtained through quantitative data.

4.4.2. M-MALL training

The results of qualitative data analysis for PSTs' views on M-MALL training they received before their actual teaching experiences with M-MALL revealed three main themes: (1) gains, (2) content, and (3) feelings. This section includes the discussions of the findings according to each main theme stated above.

The findings on the views of PSTs on M-MALL training revealed that PSTs had gains on teaching skills, on knowledge of M-MALL integration, and on being up-to-date. The participants found this training very helpful in contributing to their teaching skills. Previous studies highlighted the importance of guiding teacher candidates for how, where, and when to use mobile technologies in their EFL lessons as their results highlighted the need for a comprehensive training specifically designed for EFL teachers (Al-Jarrah, et al. 2019; Aşık et al, 2019; Koral Gümüşoğlu & Akay, 2017; Kuru Gönen, 2019; Teo & Noyes, 2014; Osakwe et al, 2017; Öz, 2014, 2015; Yeh, 2018). However, unfortunately, most of the PSTs today graduate having lack of knowledge on technology integration (Al-Jarrah, 2019; Koral Gümüşoğlu & Akay,

2017; Kuru Gönen; 2019; Teo & Noyes, 2014; Osakwe et al, 2017; Öz, 2014, 2015; Yeh, 2018). Thus, according to the views of PSTs of this study, the training might have provided the opportunity for them to enhance their teaching skills through technology integration. In Turkey, with the latest curriculum offered to ELT programs, the necessity for equipping PSTs with M-MALL have become more and more important since there are no subject-specific courses that guide these PSTs to use mobile technologies during their future lessons and its importance was highlighted in the literature (Batane & Ngwako, 2017).

As Riel (2017) asserts, technology is not stable, and when problems arise a tech expert and a novice will act differently. Novice will feel helpless and panic while the tech expert will consider this problem as an opportunity to learn. While the former blames himself in this situation, the tech expert blames technology. Riel further emphasizes that "tech experts do not have to know how to solve a problem when they first confront it. They just need to know how to learn to solve the problem" (p. 638). Considering the statements above, teacher educators need to help PSTs increase their expertise on M-MALL integration so that they could improve themselves in the ever-changing digital developments of the modern world. Thus, the views of PSTs in the current study may have been the result of the training that gave the chance for these PSTs to understand the logic behind M-MALL integration, instead of giving a list of M-MALL mobile applications and asking them to choose from the list to use in their teaching.

In this age, people are faced with many unexpected problems such as epidemics, natural disasters, and big fires that threaten their lives. These problems not only negatively affect many areas of life but also cause great harm to education. In these situations, formal education is either interrupted or tried to be continued in the form of distance education. Although educators, families, and students try to keep up with this new situation during these sudden changes, there may be some problems in terms of the technologies used. At this point, the digital divide plays an important role in determining the success or the failure of technology use in educational settings (Izquierdo et al., 2017). The problems may be difficult to overcome at the national level, and great effort may be required to solve the problems that arise as a result of digital inequality. Thus, a great deal falls on the part of the teachers, because teachers

may determine many stages from the design of the lessons to the implementation. If EFL teachers understand the necessity of using the latest technologies in the classroom through comprehensive training, then the quality of education can continue without any decline. In this respect, this training might have instilled in teachers that technology is an indispensable part of education. As Bax (2003) says, when a technologic tool is transformed into an ordinary educational tool such as a pencil or a book and becomes normalized, then the most efficient results can be obtained as a result of technology integration. Therefore, this training might have opened up a way for PSTs to normalize the process of M-MALL uses in their classrooms by teaching them how to achieve it through comprehensive steps. Moreover, as emphasized by Chao (2015), prospective English teachers need to transfer these skills long-term. Thus, it can be said that at the end of this training the ability of the teacher candidates to transfer the knowledge they obtained in M-MALL training and blending them with up-to-date information might have been developed. Also, the importance of being able to reconstruct these skills with each new technology has been emphasized by Torsani (2016). Hence, the training may have also helped PSTs develop the necessary skills for reconstructing their knowledge on M-MALL integration in their future lessons as the participants indicated in their reflections that they would have a chance to bond with their students and eliminate the generation gap. Many people use smartphones in Turkey and the usage is quite common among the young generation (TSI, 2020). It has been affirmed that learning preferences change according to generations (Çapar & Keçik, 2017). Hence, teachers are now aware of the fact that smartphones are inevitable parts of these teenagers (Bozna & Yüzer, 2020), and they need to use these tools to increase the quality of education. Consequently, including recent favorable technological tools into foreign language teaching can help English teachers better motivate their technologically preeminent learners.

In addition to the perceptions of PSTs on the gains from this training, the content of this training was found to be quite satisfying and helpful by the participants. Former teacher training models, based on constructivist and socio-cultural views, have put forward several implications such as modelling, collaboration, reflection, and transfer and reconstruction of knowledge that were considered as necessary in teacher training on technology integration (Kuru Gönen, 2019; Sert & Li, 2017; Son, 2018). Taking all

these constructs of constructivist and socio-cultural views into consideration, M-MALL training included various stages that enabled PSTs to practice M-MALL. In background activation, the researcher explained the notions related to M-MALL to the participants, and they were also asked to complete a task to check their comprehension which was also done by integrating M-MALL. At the second step, in awareness-raising, the PSTs were asked to practice their newly learned knowledge on EFL textbooks, which was also followed by an in-class discussion. After the third step, namely modelling, PSTs were asked to write reflections on what they learned and how the researcher integrated M-MALL into the language activities. Throughout the training session that lasted eight weeks, the participants were asked to reflect on their learning process in each step either by in-class discussions or by reflection questions. The importance of reflectivity in fostering teaching skills has been highlighted by various researchers from the field (Kincheloe, 2003; Kuru Gönen, 2012). Hence, it can be stated that the content and the materials of this training might have fostered English teacher candidates' abilities by providing them a chance to monitor their advancement in the use of M-MALL in teaching English through collaboration and reflection. The recursive nature of each activity completing and supporting the previous knowledge helped PSTs to practice M-MALL better. Furthermore, according to Batane and Ngwako (2017), modelling is an important method in teaching education to help PSTs understand and develop themselves in teaching. Also, Teo and Noyes (2014) asserted that PSTs need to observe and understand the teacher educator as models of technology use and teacher educators can make it possible through using technology in their lessons and tutoring PSTs. Thus, this modelling technique might have helped PSTs in this study to develop their knowledge of M-MALL. Moreover, as suggested by Son (2018), collaboration with peers and the experienced ones play a significant role in constructivist views of teacher education for technology use. In this light, the researcher gave detailed feedback to PSTs' endeavors, so PSTs might have understood and implemented M-MALL successfully during the tasks in training. The techniques such as modelling and collaboration through in-class discussions might have helped the participants not to feel alone, dazzled, or lost in the use of multimodal mobile technologies. Furthermore, The M-MALL Mobile Application Evaluation Checklist, which the researcher prepared and explained to PSTs, guided them in deciding on an appropriate M-MALL mobile

application to use with the activity in which they wanted to integrate mobile technology. Such an elaborative training model on mobile technology integration might have helped EFL PSTs' enhance their skills on multimodal mobile technology integration into EFL teaching.

In the last main theme, PSTs stated that they felt self-content after the training they received. They stated that they were happy to be educated on such a popular and recent topic. Osakwe et al. (2017) similarly found out that teachers would be happy to be introduced to the use of various mobile devices for teaching and use them in their lessons. However, according to Batane and Ngwako, (2017), even though PSTs were happy to use mobile technologies in their future classrooms they felt insufficient for such an integration. Therefore, the results of this study might indicate that supporting EFL teachers with the necessary knowledge on M-MALL integration may have helped them feel content along with having positive feelings towards technology use. This feeling of self-content might be considered as a result of the supportive nature of the training including various tasks to practice and accomplish M-MALL integration. As stated earlier, the PSTs went through comprehensive training in which the researcher supported them with various tasks and modelled each step of M-MALL use in foreign language teaching. Furthermore, this content was given to PSTs through a booklet (see Appendix-2) to which they could refer throughout this process. Thus, such a detailed and supportive training might have led a satisfaction in PSTs towards the training they received.

To conclude, the results of PSTs' reflections on M-MALL training they received revealed that M-MALL Training Model was successful and reached its' aims in developing PSTs' competence in using multimodal mobile applications in EFL teaching. In addition to the former recent models on technology education (Aşık et al., 2019, Kuru Gönen, 2019; Sert & Li, 2017; Son, 2018) the findings of this study considering the M-MALL Training Model may shed light on PST education in the integration of multimodal mobile technologies. Thus, it can be thought that this educational model, which was based on socio-cultural and constructivist approaches in the field, may have an important place in the field in terms of teaching M-MALL integration in EFL PST education. The necessity of such an education is indisputable in terms of training PSTs to keep up with today's changing conditions.

4.4.3. Integration of M-MALL into EFL Learning

The results obtained from qualitative data analysis for PSTs views on M-MALL revealed five main themes: (1) contributions of M-MALL on EFL learners' learning, (2) contributions of M-MALL on the lesson, (3) effects of M-MALL on PSTs' feeling, (4) prerequisites of M-MALL integration and (5) problems in M-MALL integration. This section includes the discussions of the findings according to each main theme stated above. The sub-themes that were explained in detail and supported with quotes in the results are discussed under each main theme below.

According to the first main theme, M-MALL was found to contribute to EFL learners' learning in several aspects. These contributions were grouped as positive attitudes towards English, attention, creativity, confidence, and easiness in learning. As being the most frequently stated contribution by the PSTs, M-MALL was found to be increasing EFL learners' positive attitudes towards learning English. Many studies that investigated technology integration and using mobile technologies in EFL learning environments had similar results. According to these studies, integrating these technologies could help EFL learners enjoy language learning (Aygül, 2019; Kuru Gönen, 2019), be motivated (Inggita, 2019; Kuru Gönen, 2019, Öz, 2015), build positive attitudes towards English (Öz, 2015), be enthusiastic, and reduce nervousness and embarrassment (Kukulska-Hulme & Viberg, 2018). In the current study, the prospective teachers observed that EFL learners in their classes enjoyed M-MALL activities as they were involved in M-MALL activities. The participants of this study often stated in their reflections that M-MALL was an enjoyable experience both for them and for their students. The high school students told PSTs during their lessons that using M-MALL made the lesson more enjoyable than the lessons they used to have with their own EFL teachers. Given the new opportunities that mobile technologies present to EFL teachers to improve their traditional lessons (Barnes, 2018), M-MALL integration might have provided a more enjoyable environment in which EFL learners were happy to learn English.

In terms of EFL learners' positive attitudes towards English, the results of this study also revealed that using M-MALL mobile applications increased EFL learners' enthusiasm and motivated them to learn the content being presented and carry out the tasks assigned to them. Motivation related variables have been largely included in the

most recent technology acceptance models in the literature such as TAM (Davis, Bagozzi & Warshaw, 1992) and UTAUT (Kang, 2014) and many researchers highlighted its significance as one of the determinants of the digital divide (Adhikari et al., 2016; Bradtzeag et al., 2011; Ghobadi & Ghobadi, 2015; Scheerder et al.; 2017; Wei et al., 2011;). Furthermore, the recent studies conducted on technology integration in EFL classes (Inggita et al., 2019; Kuru Gönen, 2019) and especially on MALL (Rau et al., 2008; Salman, 2014; Lee, 2019; Wang & Smith, 2013) have also found out that technology and mobile devices increase learners' motivation. The reasons behind these positive attitudes towards English for EFL learners could be having an extraordinary experience with M-MALL. In Turkey, according to the Ministry of National Education's Circular No. 2018/10 students are allowed to bring their mobile phones to the school but they cannot use them in the places such as classrooms and labs where educational activities are performed (Küçük, Eser, Çevik & Öngel, 2020). According to the findings of Küçük et al. (2020)'s study, even parents want mobiles to be completely banned in the school environment. Many people think that smartphones cause distraction in the classroom and prevent learning. Thus, it can be stated that M-MALL was seen as a different experience by the high school EFL learners who had barely experienced such an integration before. Besides, the fact that these students' constantly questioning PSTs whether they were allowed to use their smartphones in the classroom might be an indication that this experience was very different for them. Parallel to this idea, one of the PSTs in this study stated that M-MALL led to social satisfaction among EFL learners. Social satisfaction is described as "being satisfied with your own social contacts and social network" (Weijs-Perrée, Van den Berg, Arentze & Kemperman, 2017). In other words, students might have felt more satisfied, because they experienced success through their mobiles in the English tasks within their social network (i.e. their peers). According to the PST, sharing and accepting the places they see, their work, the books they read, and their experiences with their social circles through these media might have given a sense of social satisfaction to the EFL learners. Similarly, their answers to M-MALL tasks, and their success might have also provided social satisfaction to them as they also used their devices for learning. Therefore, the resemblance of both experiences might be considered as an important factor for the contributions of M-MALL on EFL learners' social satisfaction. Thus, based on these

results, it can be concluded that mobile devices might have positive effects on students' attitudes towards learning English. Integrating these tools into English lessons properly and efficiently instead of banning them may be an important step towards increasing the efficiency of English lessons.

The second sub-theme concerning M-MALL's contributions to EFL learners' learning was these students' increased attention during their lessons with M-MALL. Many benefits of using mobile technologies in the EFL lessons have been stated in the literature so far. Due to its engaging nature, extraordinary way of presenting the language content and activities, ubiquity and multimodality of mobile devices have been found to get EFL learners' attention and increase their curiosity and as a result enhance active participation and interaction during the activities (Batane, 2017; Kukulska-Hulme & Viberg, 2018; Kuru Gönen, 2019; Lee, 2019; Venkatesh et al., 2003). Similar results were obtained in the current study. Participants indicated that during their M-MALL activities their students were very interested in the tasks carried out with multimodal smartphone applications and participated largely to these activities. One of the reasons for this result may be the difference in the way these lessons were covered compared to the learners' lessons with their own EFL teachers without any technology use. Teachers, who do not integrate any technology in their lessons, mostly use textbooks recommended by the Ministry of National Education in Turkey. Most of the activities in these books include fill in the blanks, reading comprehension, multiple-choice or short answer questions. Research has shown that these books are limited in offering interactivity, collaboration, and active participation in EFL lessons (Tok, 2010). Even though there are project tasks that require technology use in these textbooks to enhance active participation, the number of them is very low. Also, although these tasks ask students to use technology, what is required from the students is not different from classical answering methods requiring students to write on their notebooks and raise a finger to participate. According to Kuru Gönen (2019), the atmosphere created during technology integrated EFL teaching contributes to learners' interaction and active participation. Therefore, the results found in this study may indicate that M-MALL tools might have increased the teacher-student and student-student interaction. Moreover, the collaborative features offered by M-MALL tools (such as online group work) to EFL learners might have provided various interactive

methods for them to participate in the lesson like visual sketching, video-recording, researching, answering while listening, and taking advantage of many modes like visual and auditory. As a result, students participated more in M-MALL activities by using these different methods compared to their usual language activities.

Another sub-theme that emerged from PSTs' experiences was the contribution of M-MALL on the EFL learners' creativity. Productivity and creativity were found to be important factors for mobile foreign language learning as they are necessary for creating quality content to be shared online (van Deursen et al., 2016; Johnson & Golombek, 2020). The findings of this study showed that high school students were observed to be very productive and creative during the activities designed with M-MALL. Looking at the EFL textbooks recommended by the Ministry of National Education, it is seen that these textbooks remain inefficient in developing students' creativity and productivity (Tok, 2010). If English teachers design their lessons solely based on these textbooks, it can be asserted that EFL students may not be very productive during the EFL lesson. According to PSTs' experiences in this study, they indicated that these tools allowed students to push the limits of their creativity and turn their creative thoughts into action. Normally, it may not be possible for the whole class to work, write, draw, and edit together on the same project by researching from different sources in the classroom during a lesson. Also, most high school classrooms do not have sufficient materials (i.e. such as paper, scissors, and glue) for each student to produce their creations in the tasks. However, M-MALL tools may offer EFL students the opportunity to access and use all these materials with a single tool (i.e. their smartphones). Thus, it might be concluded that students could use all of their potentials to make creative projects or give creative answers in the tasks by using the target language without spending time on procuring, sharing, or using these materials.

Confidence was another sub-theme concerning the contributions of M-MALL on EFL learners' learning. In former studies, mobile technologies were found to make EFL learners feel comfortable (Inggita et al, 2019), self-confident, and reduce their nervousness (Kukulska-Hulme & Viberg, 2018). The results of this current study revealed similar findings as the participants indicated that the high school students were very confident in M-MALL activities and adapted very fast to the M-MALL integrated English lessons. According to the participants, this may be due to the students' frequent

use of mobile technologies in their daily lives. Junco (2014) stated that as being the most recent digital generation, both PSTs and EFL learners are very enthusiastic and talented in using the most recent internet and communication technologies. Additionally, thanks to the similarity of multimodal mobile applications to social media tools that students frequently use in their daily lives, M-MALL activities might have enabled them to easily participate in the activities by transferring their social media knowledge. According to Köksal and Ulum (2019), social media increases the confidence and motivation of EFL learners and helps them develop positive attitudes towards learning. The transactions such as signing up for a page, opening an account, writing comments online, and shooting videos are among the operations these students frequently do in their daily lives on social media platforms. Therefore, it may be quite natural for them to adapt quickly and feel comfortable while using M-MALL tools. Furthermore, another reason indicated by the participants for EFL learners' being confident was the anonymity that M-MALL mobile applications provide. According to Lai, Jong, Hsia and Lin (2020) being anonymous in technology-integrated lessons help learners lower their fears and participate more confidently in the tasks. As stated by several PSTs, when high school students were assured that their identities would not be known, they participated highly in M-MALL activities with confidence. Furthermore, when they worked in groups in M-MALL activities and knew that their answers would be seen as a group then EFL learners felt more confident. The reason for this may be because they were afraid that they would give wrong answers in the tasks. Thus, the opportunities that M-MALL provided such as anonymity and group work might have affected EFL learners' confidence.

According to the second main theme of the current study, M-MALL contributed to the EFL lesson in several ways. The results revealed that M-MALL made the lessons more effective, suitable for evaluation and economic. The results revealed that the EFL lessons became more effective in three ways: reinforcing the subject, providing multimodality, and ubiquity. Batane and Ngwako (2017) stated that MALL reinforces the comprehensibility of the subject by simplifying and providing information that cannot be covered in textbooks. Similarly, the results of this study showed that PSTs found M-MALL as a strong approach for fostering EFL learners' knowledge as it might have enabled reviewing and embodying newly learned knowledge. Studies conducted

on the integration of digital tools in language learning environments found out that integrating technological tools enhances language skills (Al-Jarrah, 2019; Kuru Gönen, 2019), vocabulary skills (Hişmanoğlu, 2017) and provides opportunities for comprehensible input, output and noticing (Kukulska-Hulme & Viberg, 2018). In this regard, M-MALL might be helpful for EFL teachers to present the target language in contexts through various M-MALL tasks using Online Classroom Tools (e.g. Edpuzzle), Visual-Sketching and Note Taking Tools (e.g. Canva) or Augmented Reality Tools (e.g. HP Reveal). Moreover, M-MALL was found to provide easiness in the learning process of EFL learners. Many technology acceptance theories have touched upon the core construct of 'perceived ease of use' (e.g. TAM & UTAUT, etc.) which indicates that to accept and use a technology one needs to think that it is easy to use (Venkatesh et al., 2003). The results of this research may indicate that the mobile tools used and the EFL courses integrated with M-MALL may have facilitated the language learning process by high school students. It was observed by the pre-service teachers that the perception of perceived ease of use might have occurred in students as they got used to M-MALL tools. It is also found out that form PSTs' perspectives M-MALL might have eased the learning process for language learners by preparing them for the subject and easing the way to reach knowledge. Recent studies also highlighted the easiness and speed that MALL provides to learning (Aygül, 2019; Gilgen, 2004; Inggita, 2019; Jaradat, 2004; Liu, 2016; Rau et al., 2008). As Hişmanoğlu et al. (2017) stated MALL enables quick access to information such as using online dictionaries during tasks. Similarly, in M-MALL activities, the students used M-MALL tools to complete their tasks and activities quickly and effectively. The internet and mobility of the tools might be considered as the reasons behind this expedition. When the limited time allotted for English lessons in the weekly schedule of high schools in Turkey is considered –which changes two to four hours-, it might be important to integrate such an effective, easy and fast teaching method into language education to get better outcomes from foreign language education.

In the current study, it was also found out that the multimodality of M-MALL mobile tools enhanced lessons' effectiveness. It was highlighted by former studies that mobile tools provide multimodality in EFL learning (Al-Jarrah et al., 2019; Kukulska-Hulme & Viber, 2018). According to Magal-Royo et al. (2011) multimodality enables

learners to find more accessible and usable environments in which their comprehension is increased. In this respect, the multimodality offered by these M-MALL smartphone applications helped learners understand the given subject by presenting it with several modes at a time. The visual and linguistic modes combined helped the learners express themselves better while at the same time helped them comprehend the produce language items in the target language easily. Unfortunately, in English lessons taught by adhering to the classical textbooks, it is observed that generally multimodality is limited and visuals are presented in isolation from the textual mode (Weninger, 2020). However, Kress and van Leeuwen (2001) stated that more than one mode is needed for increased meaning-making. According to Sakulprasertsri (2020)'s study EFL teachers indicated that multimodality can be provided in the foreign language classroom by integrating online classroom tools such as Kahoot, Plickers, Quizlet, and other Google Applications. PSTs of the current study frequently stated that M-MALL tasks, specially designed with the tools that provided augmented reality might have provided an environment to teach a multimodal English lesson as AR-enhanced the texts with various semiotic modes (i.e. scripts, voice, music, and image). In this respect, M-MALL might be considered as a support for more effective lessons by enabling learners to benefit from various modes offered by M-MALL tools.

Lastly, PSTs indicated that the ubiquitous nature of M-MALL tools and the ubiquity they provided in M-MALL tasks helped for more effective lessons. The results revealed that this ubiquity might have helped the EFL learners have real-life learning experience which was also stated by many researchers in former studies which emphasized the portability of mobile devices (Aygül, 2019), the context that they are used (Hockly, 2013), and removed time and space limitations (Öz, 2015). Since many people in their daily routines have breaks between their tasks and continue in another time or a place, these tasks might have enabled high school students to parse their learning and fine-tune their learning process. Kukulska-Hulme et al. (2017) stated that mobile technologies move the lesson beyond the classroom walls, consequently, this continuous access allows rehearsal of the content being taught (Franklin, 2011). Contrary to the lessons carried out without mobile technology use, M-MALL can offer the opportunity to take these lessons beyond the classroom. M-MALL can help teachers not only interact with their students in the classroom but also provide a continuous

language education for them. The fact that schools continue with distance education for a while due to the extraordinary situations experienced today and the possibility of encountering such unexpected extraordinary situations at all times has emphasized once again how important the ubiquitous feature of mobile technologies is. The sustainability of education regardless of time and place is more important than ever in this era. Language is a subject that is learned and reinforced much better when exposed and repeated frequently (Akbarian, Farajollahi & Catalán, 2020; Farshi, Tavakoli & Ketabi, 2019). If students are provided with these opportunities, the contribution of M-MALL in improving their language skills might be large, because, in this way, students may have the opportunity to be exposed to the target language as much as they want and from wherever they need.

As the second sub-theme concerning M-MALL's contribution to the lesson, M-MALL was found to be suitable for evaluation by the participants of this study. Aygül (2019) stated that there are various mobile applications to design quizzes and mobile devices can provide EFL teachers with tools for assessment and evaluation. Similarly, mobile technology integration, according to Barnes (2018), enables teachers, who implement constructivist approaches in the class, to do evaluation and reflection of learning by asking questions to assess learners' progress and seek solutions for better learning. In this current research, various tools grouped under M-MALL provided PSTs to track their learners' progress and give individualized and immediate feedback. Considering classical EFL lessons without any technology integration, it can be hard for an English teacher to take care of all the learners one-by-one in the classroom within the time limits of a lesson. As stated by the participants, M-MALL tasks enabled PSTs to check their students' comprehension and understand whether the topic was comprehended or not by monitoring all of the students who participated in M-MALL tasks. Of course, in the M-MALL integrated course, it can be difficult to monitor the progress of the student who does not attend the tasks. However, the pleasure and enjoyment that M-MALL could offer to the learners might have contributed to the participation in English lessons increased and it may have become easier for PSTs to keep track of all of the students' learning. Furthermore, the tools used in M-MALL activities were found to be helpful for PSTs to evaluate EFL learners' performance with the rubric readily presented in the application as in Flipgrid. Therefore, even the shortest

speaking performance, which may not be evaluated in the classical EFL lesson, could be graded and could enable the learner to see his progress. In this respect, M-MALL might be stated to help evaluate students' progress and provide feedback to them.

Finally, in terms of the contributions to the EFL lesson, M-MALL facilitated lessons to be carried out in a quite economic way as stated by PSTs. They indicated that M-MALL saved time and paper and provided practicality to the lesson by allowing the teacher to present the lesson in just one tool. The multimodal mobile tools categorized in this study were found to serve more than one aim such as practicality and creativity (discussed earlier). Former studies pinpointed similar features of mobile tools such as time-saving (Lee, 2019) and practicality (Inggita et al, 2019) and specify that they reduce the amount of time spent for taking notes and searching information (Alshammari, 2020). Considering the massive amount of data available to learners, gathering and using the necessary information can be boring discouraging, and distracting for them (Sezgin & Yüzer, 2017), especially when the limited time allotted for EFL lessons are taken into account. Thus, M-MALL, which provided all the materials that students needed within a single tool, allowed everything to be presented together in a compact form to the students and provided a considerable amount of savings for EFL learners and teachers in terms of energy, materials, and time. In other words, unlike the activities performed with classical notebooks and textbooks to write texts or prepare presentations in practicing writing or speaking skills, M-MALL added practicality and saved time by providing more than one material (for making presentations, coloring, sharing, commenting) to the EFL learners during these tasks. Zengin (2020) asserts that mobile learning offers EFL learners to have more qualified time spent in class as they become more active learners. Thus, the time-saving and practicality features of M-MALL mobile tools found in this study could validate the increased quality of EFL learning.

The third main theme of this study revealed that PSTs experienced both positive and negative feelings during M-MALL integration. Many studies conducted in technology-enhanced language learning so far have reported that EFL teachers generally feel confident (Aygül, 2019; Barnes, 2018; Batane & Ngwako, 2017), relaxed (Aydın, 2013; Koral Gümüşoğlu & Akay, 2017), willing (Inggita et al., 2019) and happy (Odiakaosa et al., 2017) in integrating mobile technologies into their lessons. The

results of this current study also showed that EFL PSTs mostly experienced positive feelings towards integrating M-MALL activities. They stated that they felt happy, motivated, comfortable, and excited during the lessons that they carried out in their Teaching Practice. The reasons behind these positive feelings could be attributed to the active participation and motivation observed in EFL learners in M-MALL integrated classes. Furthermore, having training before their experience with M-MALL might have affected their confidence as they knew how to effectively use M-MALL in the lessons. According to Kuru Gönen (2019), with the help of training PSTs can interrelate technology use with pedagogical outcomes so that difficulties in coping up with the technological needs of contemporary classrooms could be eliminated. On the other hand, the findings of this study showed that PSTs developed some negative feelings which were mostly experienced at the beginning of their lessons with M-MALL. In former studies, EFL teachers were found to be overwhelmed due to other responsibilities (Aljarrah et al., 2019) and unfamiliar with mobile technologies (Inggita et al., 2019). In this current study, PSTs indicated that they were hesitant and nervous at the beginning of M-MALL integration but these feelings faded away as they became more experienced. Although the teacher candidates have had the opportunity to experience M-MALL in micro-teaching presentations in the training process, both the fact that this training took place in a limited time and that they experienced teaching for the first time in the Teaching Practice course may have caused them to be hesitant and nervous. Venkatesh et al. (2013) indicated in UTAUT that experience determines the acceptance of specific technology use and as a result, it may have determined the attitudes of PSTs towards using M-MALL in this current situation. Bearing this in mind, opportunities could be provided for EFL PSTs and teachers to experience and practice M-MALL to develop more positive feelings towards M-MALL integration.

The fourth main theme of this study pointed out the prerequisites for successful M-MALL integration in the language classroom. According to PSTs selecting and using appropriate M-MALL mobile applications and being familiar with these tools facilitated better outcomes in M-MALL integration. Application-related issues such as easiness of the interface, accessibility, and rich functionality were found to be significant for well-achieved lessons in this study. Van Dijk and Van Deursen (2019) stated that being able to access the necessary equipment has a significant role in determining one's position in

the digital divide and this access yields to better outcomes. Therefore, using easy-to-access M-MALL mobile applications in the classroom might have put teachers and EFL learners on the favorable side of the divide might have helped them complete M-MALL tasks successfully. Another prerequisite was found to be the rich functionality of the application. Previous studies on MALL also found out that serving various functions makes mobile applications more useful in the EFL classes (Al-Jarrah et al., 2019; Lee, 2019; Miller & Doering, 2014). Being able to connect the smartboard, share their products with other students in the class or social media, and enabling all four skills to be practiced by offering various modes might have provided advantages for a successful M-MALL lesson.

In terms of familiarity, PSTs indicated that both their and high school students' experience with the M-MALL helped them have more beneficial outcomes from the lessons they carried out. As stated earlier, having "experience" is one of the key determinants in explaining individual differences in technology acceptance (Venkatesh et al., 2013). Thus, individuals might have bonded with the technology they used, and as a result, they might have wanted to use this technology more. When this is the case, it could be possible to achieve more efficient results in foreign language learning by using mobile technologies after the enthusiasm and experience required for the M-MALL integration is ensured. Similarly, Altamimi (2017) stated that contemporary learners are more familiar with mobile devices compared to many teachers which makes them more experienced in using mobile devices. Their experience and the PSTs' second or third uses of M-MALL in the language classroom might have led to more successful lessons with this technology integration.

Finally, the fifth main theme of the current study indicated that PSTs experienced several problems during M-MALL integration in their Teaching Practice. Along with many positive reflections of M-MALL during the courses of PSTs, various problems as technical, student-related, and school-related issues were encountered. In terms of technical problems, lack of equipment was found to be a problem that both PSTs and high school students encountered greatly. Results of the former studies in this area revealed that limited or lack of internet connection (Aygül, 2019; Inggita et al., 2019), high cost (Hockly, 2013; Kukulska-Hulme & Shield, 2008; Öz, 2015), limited battery (Bayyurt et al., 2014; Singh, 2010) and limited tech support on facilities (Izquierdo et

al., 2017) can be the reasons of having insufficient equipment to carry out MALL activities in the classroom. Similarly, as stated frequently by the PSTs that internet connection was the most problematic issue they had to deal with during M-MALL tasks. Accessing the necessary equipment has been stated to be quite significant in the digital divide debate (van Deursen & van Dijk, 2019). Thus, the EFL learners' being on the disadvantageous side of the digital divide might have been the reason behind these technical problems. The recent conditions worldwide have generally shown that Turkey has been unsuccessful in obtaining the necessary materials and tools for technology-supported learning. While there is no problem with accessing technological tools per capita in most households (TSI, 2020), a healthy learning environment cannot be provided. Thus, when considered from this angle, even before the integration of content-specific technologies such as M-MALL, such problems are recommended to be resolved in Turkey as it might be necessary to be in the favorable side of the digital divide in terms of materials access for a healthy and complete M-MALL integration.

In terms of student-related problems, PSTs observed low participation among high school students from time to time, and the reasons for this low participation were indicated as students' shyness and lack of comprehension of the applications. As stated by Kilmonova and Dembovskaya (2013), students may have identity concerns and may want to be anonymous during activities. A similar reason might have caused EFL learners to hesitate to join M-MALL tasks. However, M-MALL mobile applications chosen by the PSTs were stated to allow students to hide their identities during the activities and the participants stated that as students learned this function of the multimodal mobile applications they started to feel more relaxed and participate in the activities more. Moreover, Aygül (2019) indicated that some students during MALL can have problems like lack of awareness on MALL and digital literacies and as a result, their participation levels can drop. Similar results have been found in this study as PSTs stated that high school students did not understand the application at the very beginning of M-MALL activities. However, the participants observed this issue just in at the initial stages of each M-MALL activity, and once students got used to the application these problems faded away. For this reason, an adaptation period may be needed for both the teachers and the EFL learners to handle M-MALL with full participation. Other problems stated by PSTs related to the EFL learners such as reluctance and distraction

and crowded classrooms were among the minor problems encountered during M-MALL experiences. The previous studies also highlight how easily students can get distracted during activities in which they use their mobiles (Hockly, 2013; Öz, 2015). Additionally, monitoring students' actions while they are dealing with their smartphones has also seen as a difficult task by teachers (Inggita et al., 2019). Therefore, no matter what precautions are taken to prevent these types of student-related problems, it might be inevitable due to the appealing nature of smart technologies to face them.

Although very few, PSTs stated that they experienced some problems related to the schools they had their Teaching Practice courses. The participants indicated that they suffered due to limited time allocated for their M-MALL lessons at high schools and this mostly happened because too much time had to be spent to explain the M-MALL application for the first usage. Kuru Gönen (2019) asserted that limited time and the crowded classroom could be a problem for PSTs as they could not provide enough and equal opportunities for all their learners. The reason for this problem might have been the limited time (i.e. 40 minutes) given for PSTs to carry out their lessons in Teaching Practice. However, considering the time normally allotted for English lessons at schools, this may not cause a serious problem for in-service English teachers as they can continue M-MALL tasks the following lessons or weeks. Furthermore, the students may also get used to the application, and the next time they have to use it they may not have any adaptation problems. Thus, EFL teachers may arrange M-MALL activity's time according to their schedule and it may not cause any serious problems for PSTs when they step into their professions as in-service English teachers. Another school-related problem was the restriction on the smartboards used in the classrooms. As stated in Özdemir (2017)'s study the internet is restricted in the environments provided by The Ministry of Education in Turkey and it is even sometimes impossible to reach educational websites. PSTs in this study wanted to browse some websites for M-MALL activities to enhance interactivity in the classroom. In other words, even though M-MALL offers individualized experiences for EFL students in the classroom, it also allows them to interact during lessons. PSTs believed that supporting this interactivity though the smartboards and reflecting students' answers after the activities through the websites of M-MALL mobile applications led to better results in EFL learning. The reason for this problem might be that it was forbidden in the smartboards to access some

websites to protect students from the harmful effects that they could face. Thus, it may be useful to remove these restrictions for healthier technology integration.

All in all, even though some problems emerged during PSTs' experiences, the integration of M-MALL into EFL learning was found to be very beneficial yielding fruitful outcomes for both PSTs and EFL learners. Receiving training and being able to apply the knowledge of multimodal mobile technology integration mainly revealed positive results in EFL learning and as well as pre-service teacher development. Therefore, it is hoped that the findings of this research will guide teacher trainers in preparing their PSTs to the contemporary lessons surrounded by the latest technologies. The following chapter will summarize the whole study and suggest some implications for Multimodal-Mobile Assisted Language Learning in terms of teacher education and regulations at the national level.

CHAPTER 5

5. CONCLUSIONS

5.1. Summary of the Study

The current study was designed to investigate the views of pre-service EFL teachers on M-MALL training and M-MALL teaching experience. In this regard, an eight-week M-MALL Training Model was developed and implemented with fourth - EFL PSTs at a state university in Turkey. Following this training, the study aimed to provide teaching opportunities for EFL PSTs to apply M-MALL in their teaching practices and find out the effectiveness of M-MALL in EFL learning and teaching through the perceptions of PSTs. A total of 16 EFL PSTs, who were studying in their fourth year and taking the Teaching Practice course, participated in this study. Prior to the implementation of M-MALL training, the participants were given MLPS to find out their perceptions toward mobile learning. The content and the steps of the M-MALL Training Model were piloted and developed by the researcher. M-MALL Training Model consisted of six steps including Background Activation and Modelling supported with four related tasks: Awareness Raising, Medium Transfer, Problem Identification, and Micro-Teaching. PSTs were informed what multimodality and MALL were in the Background Activation step which was followed by an Awareness Raising task, in which the PSTs were asked to evaluate mobile applications according to the M-MALL Mobile Application Evaluation Checklist and practice textbook activities to decide on the appropriateness of activities for M-MALL transfer. M-MALL Mobile Application Evaluation Checklist was prepared by the researcher to evaluate and decide on an effective M-MALL mobile application to be used in EFL tasks. PSTs in the current study were asked to use this checklist in their teaching practices with M-MALL throughout the study. In the Modelling step, the researcher modelled how to prepare lesson plans including M-MALL tasks in front of the participants and asked PSTs to write reflections on designing an M-MALL integrated lesson by answering modelling reflection questions, which aimed to help PSTs comprehend the process of M-MALL use and reflect on how much they learned. This step was followed by three consecutive tasks. In Medium Transfer, PSTs were expected to transfer a textbook activity into an

M-MALL activity by choosing an appropriate mobile application. In the next task, in Problem Identification, PSTs were given a set of instructions for M-MALL activities and asked to decide on whether they were problematic or not. The problematic instructions were discussed in the class and improved. Finally, in the Micro Teaching task, PSTs were asked to work in groups of four and prepare a lesson including an M-MALL task. The PSTs were asked to use all the information given in the training and the tools presented to them while preparing their micro lessons. Each group presented their lessons in front of their peers and in-class discussions were held to evaluate the M-MALL tasks presented in these micro lessons. In order to understand their views on M-MALL training they received, PSTs were asked to write a reflection at the end of this eight-week process. Following the training, the participants were asked to prepare lessons with M-MALL in their actual teaching practices at the state high schools they were assigned in the Teaching Practice course. Throughout the four-week process of actual teaching, the PSTs prepared and implemented M-MALL lessons with 9th, 10th, and 11th-grade high school students, and their lessons were recorded. After each lesson they held, PSTs were asked to write data-led reflections for their lessons by watching the video recordings of their lessons with M-MALL. Furthermore, PSTs were also asked to write data-led reflections for their peers' lessons with M-MALL. A total of 254 reflective diaries were collected from the participants at the end of their actual teaching experiences. Following their teaching experiences with M-MALL, PSTs were given MLPS again to find out any changes in their perceptions toward mobile learning. Additionally, to understand the whole process and gain more insight into PSTs' views on M-MALL integration in EFL teaching and learning, a semi-structured focus-group interview was conducted with randomly chosen four PSTs among the participants. Data gathered from MLPS were analyzed quantitatively and PSTs' reflections on M-MALL training they received and their teaching experiences with M-MALL in the actual teaching environment and semi-structured focus group interview were analyzed qualitatively. The quantitative results revealed that PSTs had positive perception levels toward mobile learning before the study and these levels have significantly increased after their experiences with M-MALL at high schools.

The qualitative data on PSTs' perceptions toward M-MALL training demonstrated that PSTs gained awareness on recent views in EFL learning and teaching and

opportunities for bonding with the new generation. According to their views, this training helped them be up-to-date and acknowledged on preparing technology-based lesson plans, motivating learners, making lessons more efficient and interesting, and dealing with the problems that can occur during M-MALL integration. Furthermore, by using the most popular recent technological tools, namely mobile devices, they considered themselves as the extraordinary EFL teachers of their future classes distinguishing them from other teachers, who do not integrate technology into their teaching. According to their views, this would help them bond with the new generation who are –colloquially expressed- addicted to mobile technologies and use them extensively in their daily lives. On the training they received, PSTs also stated that the content and the materials of the training were helpful for their comprehension and were up-to-date. Furthermore, during this training, PSTs indicated that they felt self-confident and satisfied with the trainer.

The results of the qualitative data analysis of PSTs' reflections on their actual teaching experiences with M-MALL and the semi-structured focus group interview revealed that M-MALL had various contributions to the EFL learners' learning and on the EFL lessons. According to their views, M-MALL activities increased EFL learners' positive attitudes towards English, active participation, attention, creativity, confidence, and autonomy. Moreover, PSTs indicated that M-MALL integrated lessons were more effective, multimodal, suitable for evaluation, and economic. During their activities with M-MALL, PSTs stated that they experienced mostly positive feelings and scarcely negative feelings. PSTs felt happy, enjoyed, confident, proud, excited, and motivated while conducting these lessons. On the other hand, they stated feelings such as nervousness and demotivation which emerged at the beginning of their teaching practices with M-MALL and faded away as time passed as they indicated. The reflective diaries of PSTs also illustrated the prerequisites of M-MALL activities and they put forward that M-MALL activity's success is affected positively by the appropriateness of the chosen mobile application and the users –teacher and the students- familiarity with the mobile application. According to them, if the mobile application chosen for the M-MALL task was suitable for its purposes, then the outcomes of the lesson were more successful in terms of EFL learning. Furthermore, if the users of the mobile application were familiar with its interface and use, then the

success of the M-MALL task also increased. Finally, PSTs stated that several problems occurred during M-MALL tasks. According to the participants, technical problems such as lack of internet connection or mobile devices, student-related problems such as distraction by the other applications such as social media tools during their smartphone use in M-MALL tasks, and school-related problems like limited time or crowded classrooms. PSTs also suggested several steps in their reflections that can be taken to overcome or prevent these problems.

All in all, enhancing EFL learning and teaching with mobile devices and multimodal applications were found to be quite fruitful in this process. This study showed that although EFL PSTs already had positive perceptions of mobile learning at the beginning of the study, experiencing a language teaching process with multimodal mobile tools increased their positive perception levels even more. Furthermore, the training on the integration of multimodal mobile applications in the English learning/teaching process and the views of PSTs on integrating M-MALL in teaching brought out the importance of having such courses with contemporary topics in English language teaching departments and using multimodal mobile applications and mobile devices in teaching English.

5.2. Conclusion

Teacher education requires an on-going development to keep up with the newest advancements in teaching especially resulted in due to the recent innovations in technologies. At this point, offering content integrated training on technology integration is quite crucial for successful results in learning (Angeli & Valanides, 2005; Koehler et al., 2007). Therefore, designing and implementing a teacher training model in mobile technology integration for English language teaching is of significant importance. In this respect, M-MALL Teacher Training Model designed and offered in this study provides this opportunity for EFL teacher educators to enhance pre-service teachers' abilities to use the most recent mobile technologies in their lessons.

The advantages of using mobile technologies in the foreign language classrooms have been highlighted by many researchers in the field such as faster access to learning materials that make the learning process simpler and easier (Gilgen, 2004; Jaradat, 2014; Liu, 2016; Rau, Gao & Wu, 2008), contextualized and authentic target language

learning (Chinnery, 2006; Jee, 2011; Pincas, 2004; Rosell-Aguilar, 2007; Wang & Smith, 2013), freedom in deciding upon where, when and how to learn the target language (Cheng et al., 2010; Demmans Epp, 2016; Hung, 2011; Kukulska-Hulme, 2013; Liu, 2016; Sandberg et al., 2011; Sharples, Taylor, Vavoula, 2005), collaboration (Abdous et al., 2012; Attewell, 2005; Chinnery, 2006; Kim et al., 2013; Liu, 2016; Sole et al., 2010; Thornton & Hauser, 2005), and motivation (Rau et al., 2008; Salman, 2014; Wang & Smith, 2013). This study further supported the previous literature on the advantageous aspect of mobile technology use in teaching English. The integration of mobile technologies was found to be widely accepted by EFL teachers and learners as research indicate that the users have positive attitudes towards using mobile technologies in the classroom (Al-Jarrah et al., 2019; Aygül, 2019; Aydın, 2013; Barnes, 2018; Hişmanoğlu et al., 2017; Koral Gümüşoğlu & Alcay, 2017; Lee, 2019; Mei et al., 2018; Öz, 2015; Yokuş, 2016; Zang & Deroo, 2020). Similarly, the results of this study have put forward many contributions of M-MALL in PST experiences EFL teaching and learning.

In this regard, M-MALL provided pre-service teachers with the ability to select and use appropriate M-MALL mobile applications for suitable language activities according to their students' needs and preferences. Thus, M-MALL Training Model is a beneficial practice for EFL teachers in developing professionally and being aware of the latest technological tools for their integration into teaching English. Furthermore, it is apparent from the results of this study that content integrated technology training with activating background through modelling the steps of technology integration and allowing pre-service teachers to practice their knowledge through various tasks sharpened their skills and enabled them to experience more meaningful learning.

The ideas of constructivist and socio-cultural views have also been represented throughout M-MALL training. That is, the pre-service teachers were given the chance of exploring new M-MALL mobile applications, communicating the potential uses of these multimodal mobile applications in teaching English, collaborating on designing M-MALL tasks, reflecting on their M-MALL experiences. Furthermore, the ways of re-constructing PSTs ideas upon M-MALL integration and transferring their existing knowledge on integration according to new technologies that they can come across in the future were presented.

The results of this study also yielded that M-MALL had many contributions to EFL learners' learning and the lessons carried out. EFL learners showed high levels of enthusiasm towards using multimodal mobile technologies in their English lessons and multimodal mobile technologies were found to be quite effective in EFL teaching. Thus, using M-MALL is expected to help future EFL teachers achieve the optimum potential from their learners and lessons.

To conclude, the current study on M-MALL demonstrates that guiding EFL pre-service teachers with a content-specific training program with modelling techniques and tasks and giving them opportunities to practice their knowledge of integration in actual teaching situations yielded better results in pre-service teacher education for technology integration. Moreover, enhancing English lessons with M-MALL tasks provided better outcomes in learners and learning. Thus, this study offers several implications to support teachers and learners to be able to keep up with the latest innovations in the 21st century.

5.3. Implications

The current study is believed to provide new insights into mobile technology integration into EFL teaching and learning through training EFL PSTs, and providing them opportunities to implement M-MALL in actual teaching. The data collected by PSTs revealed both positive sides and gaps in technology training and integration. Therefore, some pedagogical implications such as training both pre-service and in-service teachers, offering guidance practice for public awareness and improvements at schools, and at the national level can be suggested.

The curriculum of ELT departments in Turkey does not offer specific courses for integrating technology into EFL teaching as mentioned in the introduction. Although most recently, the Council of Higher Education (YÖK) in Turkey has left the content of the curriculums of the Faculty of Education to the university's decision, the majority of Faculties of Education in Turkey are still using the last curriculum offered by the Council of Higher Education (YÖK). Therefore, most PSTs are graduating without having the necessary knowledge of using recent technologies to enhance teaching English. In this respect, technology-based new courses can be added to the ELT curriculum, in which PSTs are informed and guided on integrating the most recent

technologies such as M-MALL as suggested by this study. Since technology is a path full of new advancements, it is unpredictable what new technologies can be offered with the new improvements. Thus, as fruitful outcomes of M-MALL use in teaching English has become evident with the results of this study, it is suggested to guide PSTs and offer courses on using smartphones that are the recent and most popular mobile devices and multimodal applications in teaching English. Apart from the courses that can be embedded in the ELT curriculum, PSTs can hold or attend seminars, conferences, and workshops which guide them on M-MALL integration. The PSTs can either arrange these events and discuss and share their own experiences with the recent multimodal mobile technologies thorugh a Community of Practice (CoP) or they can be encouraged to attend such events hold by academic institutions. According to Hanson-Smith (2016, pp. 216-217), "members of a CoP will share knowledge, assist or mentor apprentices and collaborate in practising the skills needed in the environment or domain where the CoP has formed." In this way, the foundations of the continuity of professional development after university will also be laid as well. Another implication related to the training of PSTs can be including technology-based requirements in the courses in which PSTs prepare micro-teaching presentations. For example, PSTs can be asked to integrate M-MALL into their lesson plans in Teaching English to Young Learners or Teaching Language Skills courses as one of the requirements. Thus, PSTs can have a chance to practice technology integration in content-specific areas of ELT and will be exposed to the use of technology more compared to having only a one-shot course for technology integration. Finally, the professors in ELT departments can also use M-MALL technologies to carry out their lessons with PSTs. In this way, PSTs can observe their instructors and learn the techniques of such integration. Furthermore, PSTs can also reflect on their learning through M-MALL, decide on the strengths and weaknesses of M-MALL mobile applications, and adjust their future teaching using these technologies.

Training in-service EFL teachers is also suggested for enhancing M-MALL practices at schools. Since these teachers are currently working at their schools, they know the possible optimum uses of mobile devices for language teaching. However, as former studies (Al-Jarrah, 2019; Aşık et al, 2019; Koral Gümüşoğlu & Akay, 2017; Kuru Gönen, 2019; Teo & Noyes, 2014; Osakwe et al., 2017; Öz, 2014, 2015; Yeh,

2018) revealed, the need for a training on how to integrate technology in their EFL lessons is the primary issue which needs to be solved. Therefore, offering seminars for these EFL teachers can help them develop the necessary skills. For instance, teachers receive two seminars in an academic year in Turkey required by the Ministry of Education. These seminars can include sessions on mobile technology integration. Projects (both in national and international scope) including the use of mobile technologies can also be developed by the teachers. In this way, they can be more motivated to learn and integrate mobile technologies in their lessons due to the advantages of projects such as funding. Lastly, the ELT departments at universities can prepare workshops in which in-service teachers can not only be informed as they can be in seminars but also practice their knowledge with sample M-MALL activities. Thus, their knowledge will be fostered by actual use and they can implement these M-MALL activities in their own EFL classes.

Nowadays, many families are concerned about their children's excessive amount of mobile device use (Küçük et al., 2020). Consequently, they mostly restrict the time their children spend with mobiles. However, as the current study suggests, the use of mobile phones in EFL learning promotes many benefits for learners' learning such as developing positive attitudes towards English, increased participation, attention, creativity, confidence, and autonomy. Some of the problems that EFL PSTs faced during M-MALL lessons were related to students' lack of necessary equipment. Therefore, language teachers can inform parents and also students on the beneficial outcomes of mobile technology use for learning English and stimulate families to support their children's use of mobiles by providing them with the Internet they may need in M-MALL activities. Of course, there may be some families who cannot afford the necessities of mobile learning. In this respect, this study suggests cooperation between school management and families. Schools can spare some funding for such M-MALL practices to enhance learning and support families in need. Furthermore, teachers and school management can prepare short informative seminars for parents to illustrate the importance of integrating recent technological tools into learning. In this way, this may lead to what Bax (2003)' calls as "normalization". Hence, the use of technological devices, i.e. mobiles in the current study, will be accepted as ordinary materials such as paper and pen. Additionally, informative public-service

advertisements can be prepared and broadcasted occasionally to raise awareness of using mobiles. Although it seems that there is an increase in the use of technological equipment in our country due to the recent problems related to the Covid-19 pandemic and distance education practices, in reality, parents, students and teachers do not have full awareness and knowledge of the use of the latest technologies in education. Therefore, in addition to the lessons carried out through television broadcasts in distance education, parents, students and teachers should be informed about how they can include mobile devices in this educational process. This should also continue after the Covid-19 pandemic since the contributions of mobile technologies and their integration into language learning are widespread.

The results of this study revealed that even though there are many contributions of M-MALL on EFL teaching and learning, sometimes some problems can occur due to the deficiencies in schools. For example, PSTs indicated that it is somewhat hard to implement M-MALL with larger groups of students since the first exposure to the M-MALL mobile application may be complicated for students to understand and needs careful and close scaffolding by the teacher. Therefore, it is suggested to implement M-MALL with smaller groups of students and in this regard, schools can reduce the class size for language lessons, if possible. Another issue that caused some problems for PSTs was the internet restriction on the smartboards. It is quite acceptable for schools to have such restrictions to protect their students from the harmful effects of the internet due to misuse. However, schools can adjust their smartboards for teachers to browse the websites of some mobile applications via smartboards so that they can check their students' progress while they are carrying out the M-MALL tasks through their mobiles. For example, some applications such as Edpuzzle enable its users to use Youtube videos in listening activities. However, due to the restriction in schools', smartboards do not allow teachers to browse Youtube and as a result in Edpuzzle. As a further example, in an online collaborative mind map tool, students can add multimodal items such as videos, images or texts to the mind map. While students participate with their mobiles, the teacher browses this online mind map tool from the smartboard. However, especially with videos, it becomes impossible to use Youtube to form a multimodal branch in an online mind map in smartboards. For these reasons, to reach the optimum use in M-MALL mobile applications it is suggested to have unrestricted access in

smartboards. Finally, to enhance the use of technology and M-MALL in EFL teaching and learning, award-winning extra-curricular activities can be encouraged by the school management. In other words, English teachers can be suggested to ask their students to prepare multimodal boards for special days or famous people using augmented reality tools. In this way, all of the students in the school will be encouraged to use their mobiles in learning. For instance, a multimodal board for the most famous scientists in the world can be prepared by the students, who will just hang the portraits of the scientists and embed the necessary information explained through English videos and pictures via augmented reality tools like HP Reveal. These students can be awarded extra credits. In this way, the use of M-MALL mobile applications will increase in the school environment.

Last but not least implication can be having some improvements at the national level. It is a well-known fact that some people are on the unfavorable side of the digital divide due to the inequalities in materials access (van Deursen & van Dijk, 2019). For this reason, to have better outcomes in M-MALL, it is suggested to eliminate these inequalities. Although many tablets have been distributed to students studying in state schools in Turkey as a part of a supported by The Ministry of Education (Yılmaz, 2013), beneficial outcomes could not be obtained due to the lack of awareness of the users, i.e. teachers and students. Hence, it is expected to both have the necessary technological equipment and the necessary skills to use this equipment at the national level. The necessary technical equipment is not only restricted to mobile tools and also includes easy, fast, and free access to the internet. The results of this study demonstrate that no or slow internet connection also disrupts M-MALL. For this reason, it is recommended to take steps to strengthen the internet infrastructure of the country and to improve internet access. Another step, that can be taken nation-wide is to leave the policies of internet security to the school management so that they can allow their teachers to use restricted sites such as Youtube for educational purposes in their EFL classes.

To conclude, it is possible to use multimodal mobile applications in teaching English, but it should be supported by various steps that both governments and schools take. Moreover, by training both PSTs and in-service EFL teachers M-MALL and raising public awareness through the normalization of the use of M-MALL technology

can lead to better outcomes in English language learning and teaching. The summary of the implications is presented in Figure 5.1. below.

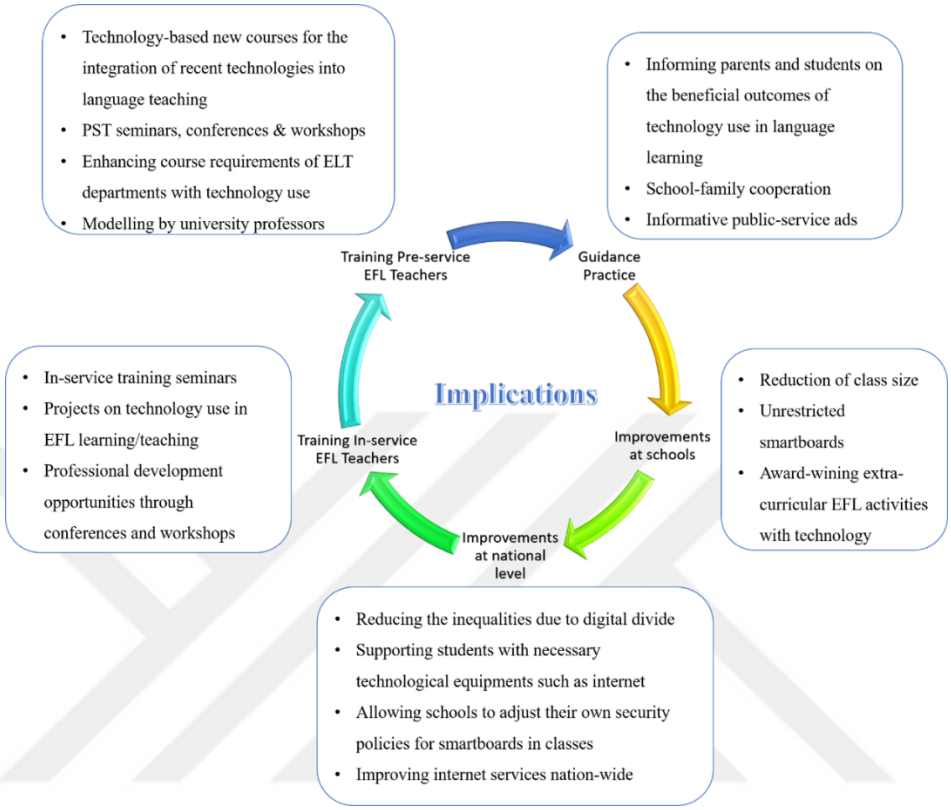


Figure 5.1. *The summary of implications*

5.4. Suggestions for Further Research

This study is conducted with fourth-year EFL pre-service teachers studying at a state school in Turkey and is assumed to contribute to M-MALL research in the literature in various points such as contributions of M-MALL to EFL learners' learning and the EFL lesson, PSTs' feelings during M-MALL implementation, prerequisites of M-MALL and problems that can be encountered during M-MALL. In line with the findings of the study, further research can be conducted with in-service EFL teachers to investigate their views of integrating M-MALL. In this way, a longitudinal study can be accomplished with the EFL teachers who have their own English lessons and know their class dynamics better.

In this study, M-MALL Training Model was developed and implemented on PSTs enrolled in the Teaching Practice course and the perceptions of these PSTs were taken

to evaluate the effectiveness of the proposed model. Since the perceptions toward M-MALL Training Model were gathered from only the PSTs participated in this study, the model can be implemented on other PSTs studying at other universities to gain more insight on the effectiveness of this training model. Furthermore, this training can also be offered to in-service EFL teachers and their views can also help revise and develop the steps in the training model. Similarly, this training model can be presented to other PSTs in the ELT department who are taking methodology courses such as Teaching English to Young Learners or Teaching Language Skills and can be asked them to implement M-MALL on their micro-teaching presentations. Therefore, the perceptions of PSTs who integrated M-MALL to specific language teaching areas can be taken.

Various research tools and instruments were used in this study for research purposes. In further studies, these tools and instruments can be expanded. For instance, instead of asking participants to write one reflection for M-MALL Training Model, participants can be asked to write reflective diaries weekly in the training process. In this way, more detailed views can be obtained concerning the training. Furthermore, the supervisor and mentor teachers' perceptions toward M-MALL can be investigated to see the effects of M-MALL integration from different perspectives. Additionally, a scale or a questionnaire can be developed to investigate the perceptions of EFL PSTs, in-service teachers, and EFL learners on M-MALL, so a comparative study can be conducted to see the differences among their views on M-MALL.

This study was designed as including eight-week training on M-MALL and four-week actual teaching experience with M-MALL in practice schools in the Teaching Practice course offered in the last semester of EFL PST education. A further study can be designed in a longitudinal fashion spread over two semesters by implementing M-MALL training in the School Experience course offered in the first semester with more practices and examples and by providing more actual teaching opportunities for PSTs to implement M-MALL throughout the Teaching Practice course in the second semester.

The effectiveness of M-MALL in EFL learning and teaching was obtained through the views of EFL PSTs that participated in this study. To understand the effectiveness of M-MALL better, further studies can focus on EFL learners' achievements by designing experimental research with pre and post achievement tests and see the effect of M-MALL on learners' learning through their progress with M-

MALL tasks. Furthermore, EFL learners' views can also be gathered qualitatively with reflective diaries throughout this process.

Another suggestion for further research is observing the practices of PSTs, who participated in the M-MALL study after they step into the professional teaching career. Data can be gathered to investigate how they carry out M-MALL into their in-service teaching experience.

REFERENCES

Abdous, M., Facer, B.R. and Yen, C. J. (2012). Academic effectiveness of podcasting: A comparative study of integrated versus supplemented use of podcasting in second language classes. *Computers and Education, 58,* 43-52.

Adhikari, J., Mathrani, A. and Scogings, C. (2016). Bring your own devices classroom: exploring the issue of digital divide in the teaching and learning contexts. *Interactive Technology and Smart Education, 13*(4), 323-343.

Ahn, S. K. (2018). *Korean EFL college students' acceptance and use of smartphone applications for English language learning*. Doctoral dissertation, Alliant International University.

Akbarian, I. H., Farajollahi, F., & Catalán, R. J. (2020). Iranian EFL learners' lexical availability: Exploring frequency, exposure, and vocabulary level. *System,* 102261.

Akbulut, Y., Odabaşı, H. and Kuzu, A. (2011). Perceptions of preservice teachers regarding the integration of information and communication technologies in Turkish education faculties. *Turkish Online Journal of Educational Technology, 10*(3), 175–184.

Al-Jarrah, J. M., Talafhah, R. H. and Al-Jarrah, T. M. (2019). ESL teacher perceptions of using educational mobile applications to develop the language skills of ESL elementary school students. *European Journal of Foreign Language Teaching. 4*(1), 65-86.

Alshammari, R. (2020). The Current Use of Mobile Devices among Students and Faculty in EFL Teaching in a Saudi Arabian Context. *Turkish Online Journal of Educational Technology-TOJET, 19*(2), 34-51.

Altamimi, M. B. S. S. (2017). Global models on the acceptance of faculty members for technology in education: a review of the literature. *International Journal of English and Education, 6(*2), 236-249.

Alwahaishi, S. and Snášel, V. (2013). Modelling the determinants affecting consumers' acceptance and use of information and communications technology. *International Journal of E-Adoption (IJEA), 5(*2), 25-39.

Anderson, N. (2009). *Equity and information communication technology (ICT) in education*. Peter Lang.

Angeli, C. and Valanides, N. (2005). Preservice elementary teachers as information and communication technology designers: an instructional systems design model based on an expanded view of pedagogical content knowledge. *Journal of Computer Assisted Learning, 21*(4), 292-302.

Aşık, A., Köse, S., Yangın Ekşi, G., Seferoğlu, G., Pereira, R. and Ekiert, M. (2019). ICT integration in English language teacher education: insights from Turkey, Portugal and Poland. *Computer Assisted Language Learning,* 1-24.

Atmojo, A. E. P., & Nugroho, A. (2020). EFL Classes Must Go Online! Teaching Activities and Challenges during COVID-19 Pandemic in Indonesia. *Register Journal, 13*(1), 49-76.

Attewell, J. (2005). *Mobile technologies and learning. A technology update and m-learning project summary*. London: Learning and Skills Development Agency.

Aydın, B. (2017). Three birds with a stone: Technology integration in language education with reverse mentoring model. *Journal of Teacher Education and Educators, 6*(2), 177-190.

Aydın, S. (2013). Teachers' perceptions about the use of computers in EFL teaching and learning: The case of Turkey. *Computer Assisted Language Learning, 26*(3), 214-233.

Aygül, S. Ö. (2019). *Pre-service EFL teachers' current practices and perceptions of mobile assisted language learning*. MA Thesis, Middle East Technical University.

Baran, E. (2014). A review of research on mobile learning in teacher education. *Educational Technology & Society, 17*(4), 17–32.

Barnes Jr, J. A. (2018). *Teachers' perceptions of implementing m-learning using pedagogical approaches.* Doctoral dissertation, The University of Memphis.

Başal, A. (2015). English language teachers and technology education. *Journal of Theory and Practice in Education. 1*(4), 1496-1511.

Batane, T. and Ngwako, A. (2017). Technology use by pre-service teachers during teaching practice: Are new teachers embracing technology right away in their first teaching experience?. *Australasian Journal of Educational Technology, 33*(1).

Bauer, H. H., Reichardt, T., Barnes, S. J. and Neumann, M. M. (2005). Driving consumer acceptance of mobile marketing: a theoretical framework and empirical study. *Journal of electronic commerce research, 6*(3), 181.

Bax, S. (2003). CALL—past, present and future. *System, 31*(1), 13-28.

Bax, S. (2011). Normalisation revisited: the effective use of technology in language education. *International Journal of Computer-Assisted Language Learning and Teaching (IJCALLT), 1*(2), 1-15.

Bayyurt, Y., Erçetin, G. and Karataş, N. B. (2014, November). The stages in mobile-assisted language learning material development. In *International Conference on Mobile and Contextual Learning* (pp. 339-350). Springer, Cham.

Beach, K. (2003). Consequential transitions: A developmental view of knowledge propagation through social organizations. In *T. Tuomi-Gröhn & Y. Engeström (Eds.), Between school and work: New perspectives on transfer and boundary-crossing* (pp. 39–62). Bingley, UK: Earli.

Beck, C., and C. Kosnik. (2006). *Innovations in teacher education: a social constructivist approach.* New York: SUNY Press.

Becker, L. A. (2000). Effect size calculators. Retrieved from: http://web.uccs.edu/lbecker/Psy590/es.htm

Blitz-Raith, A. H. and Liu, J. (2017). Interactivity in Educational Apps for Young children: A Multimodal Analysis. *International Journal of Instruction, 10*(4).

Bozna, H., and Yüzer, T. V. (2020). Digital Natives' Use of Web 2.0 Tools in Learning Foreign Language: A Case Study. *Language and Technology, 2*(1), 26-43.

Brandtzæg, P. B., Heim, J. and Karahasanović, A. (2011). Understanding the new digital divide—A typology of Internet users in Europe. *International journal of human-computer studies, 69*(3), 123-138.

Bucy, E. P. and Newhagen, J. E. (2004). *Media access: Social and psychological dimensions of new technology use.* Psychology Press.

Caner, M., Yüksel, I., and Keçik, İ. (2013). A new trend in teacher education: A web-enhanced methodology course. *Procedia-Social and Behavioral Sciences, 70,* 1831-1838.

Castells, M. (2002). *The Internet galaxy: Reflections on the Internet, business, and society.* Oxford University Press.

Chanier, T., & Lamy, M. N. (2017). Researching Technology-mediated Multimodal Interaction. *The handbook of technology and second language teaching and learning*, 428-443.

Chao, C. C. (2015). Rethinking transfer: learning from CALL teacher education as consequential transition. *Language Learning & Technology, 19*(1), 102-118.

Cheng, S.C., Hwang, W.Y., Wu, S.Y., Shadiev, R. and Xie, C.-H. (2010). A mobile device and online system with contextual familiarity and its effects on English learning on Campus. *Educational Technology and Society, 13*(3), 93-109.

Chinnery, G. M. (2006). Going to the MALL: Mobile assisted language learning. *Language Learning & Technology, 10*(1), 9–16.

Chua, N. A., Tajuddin, A. J. B. A., Soon, G. Y., Shen, D. M., Zakaria, R., Almanar, M. A., & Fatmariana, S. (2020, April). Emerging Truths in Mandarin Mobile-Assisted Language Learning. In *Journal of Physics: Conference Series* (Vol. 1529, No. 4, p. 042049). IOP Publishing.

Cohen, J. C. (1988). *Statistical power analysis for the behavioral sciences* (2nd Ed.). Hillsdale, NJ: Lawrence Earlbaum Associates.

Corbin, J. and Strauss, A. (2015). *Basics of qualitative research: Techniques and procedures for developing grounded theory* (4th ed.). Thousand Oaks, CA: Sage Publications.

Cotton, S. R., Ford, G., Ford, S., & Hale, T. M. (2012) Internet use and depression among older adults. *Computers in Human Behavior, 28*(2), 496499. doi:10.1016/j.chb.2011.10.021

Creswell, J. W. (2005). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research* (2nd ed.). Upper Saddle River, NJ: Pearson Education.

Creswell, J. W., & Miller, D. L. (2000). Determining validity in qualitative inquiry. *Theory into practice, 39*(3), 124-130.

Crompton, H. (2013). A Historical Overview of m-learning. In Z. L. Berge & L. Y. Muilenburg (Eds.), *Handbook of Mobile Learning* (pp. 3–14). New York, Oxon: Routledge.

Çapar, M., & Keçik, İ. (2017). Generation types view and perspectives of EFL instructors on their expectations related to professional development programs. *ELT Research Journal, 5*(2).

Dangel, J. and Gutyon, E. (2003). Expanding our view of teaching and learning: applying constructivist theory(s) to teacher education. In *The Annual Meeting of the American Association of Colleges for Teacher Education*, New Orleans, LA.

Darling-Hamond, L. and Bransford, J. (2005). *Preparing Teachers Education for a Changing World*. San Farncisco: Jossey-Bass Publishing Co.

Davis, F. D., Bagozzi, R. P. and Warshaw, P. R. (1992). Extrinsic and intrinsic motivation to use computers in the workplace. *Journal of Applied Social Psychology*, *22*(14), 1111–1132.

de Oliveira, I. M. S. P. (2015). *English for tourism: contribution to language use through mobile learning*. Doctoral dissertation, Universidade de Aveiro, Portugal.

Denizalp, H., & Ozdamli, F. (2019). Determination of Student Opinions on Usage of Social Media and Mobile Tools in Student-Teacher, Student-Student Communication. *International Journal of Emerging Technologies in Learning (iJET), 14*(22), 19-28.

Demmans Epp, C. (2016). *Supporting English language learners with an adaptive mobile application*. Doctoral dissertation, University of Toronto.

Duman, G., Orhon, G. and Gedik, N. (2015). Research trends in mobile assisted language learning from 2000 to 2012. *ReCALL*, *27*(2), 197-216.

Eastin, M. S., Cicchirillo, V. and Mabry, A. (2015). Extending the digital divide conversation: Examining the knowledge gap through media expectancies. *Journal of Broadcasting & Electronic Media*, *59*(3), 416-437.

Edhlund, B., and McDougall, A. (2019). *NVivo 12 essentials*. Lulu. com.

Egbert, J., Paulus, T. M. and Nakamichi, Y. (2002) The impact of CALL instruction on classroom computer use: A foundation for rethinking technology in teacher education. Language Learning & Technology, 6(3): 108–126.

Eisenlauer, V. (2014, November). Multimodality in mobile-assisted language learning. In *International Conference on Mobile and Contextual Learning* (pp. 328-338). Springer, Cham.

Ernest, P., Catasús, M. G., Hampel, R., Heiser, S., Hopkins, J., Murphy, L. and Stickler, U. (2013). Online teacher development: Collaborating in a virtual learning environment. *Computer Assisted Language Learning*, *26*(4), 311–333.

Ertmer, P. A., Ottenbreit-Leftwich, A. T., Sadik, O., Sendurur, E. and Sendurur, P. (2012). Teacher beliefs and technology integration practices: A critical relationship. *Computers & Education, 59*(2), 423–435.

Estes, J. S. (2019). A call for teacher preparation programs to model technology integration into the instructional process. In *Pre-Service and In-Service Teacher Education: Concepts, Methodologies, Tools, and Applications* (pp. 1442-1458). IGI Global.

Farshi, N., Tavakoli, M., & Ketabi, S. (2019). Receiving different types of input for learning and retention of English grammatical collocations in EFL classrooms. *Pedagogies: An International Journal, 14*(4), 297-312.

Fuchs, C. (2006) Exploring German preservice teachers' electronic and professional literacy skills. *ReCALL, 18*(2): 174–192.

Franklin, T. (2011). Mobile learning: at the tipping point. *The Turkish Online Journal of Educational Technology - TOJET 10*(4), 261-275.

Ghobadi, S. and Ghobadi, Z. (2015). How access gaps interact and shape digital divide: a cognitive investigation. *Behaviour & Information Technology, 34*(4), 330-340.

Gilgen, R.G. (2004). Creating a mobile language learning environment. In *Educause Midwest Regional Conference*, Chicago, IL.

Glaser, B. G. (1965). The constant comparative method of qualitative analysis. *Social problems, 12*(4), 436-445.

Griol, D., & Molina, J. M. (2016). From VoiceXML to multimodal mobile Apps: development of practical conversational interfaces. *Advances in Distributed Computing and Artificial Intelligence Journal, 3*(5), 43-53.

Guichon, N., & Hauck, M. (2011). Teacher education research in CALL and CMC: more in demand than ever. *ReCALL, 23*(3), 187-199.

Guichon, N. (2012). *Versl'intégration des TIC dansl'enseignement des langues.* Paris: Didier

Guo, M. (2012). Analysis on the feature of network based language learning in China. *Canadian Social Science*, *8*(5), 178 – 182.

Gülbahar, Y. (2008). ICT usage in higher education: A case study on preservice teachers and instructions. *Turkish Online Journal of Educational Technology, 7*(1), 32–36.

Haili, H., Maknun, J. and Siahaan, P. (2017, August). Problem solving based learning model with multiple representations to improve student's mental modelling ability on physics. In *AIP Conference Proceedings* (Vol. 1868, No. 1, p. 070004). AIP Publishing LLC.

Haines, K. (2016). Expanding the knowledge base of teachers' use of communication tools for language learning. *System, 62*, 102–112.

Halliday, M.A.K. (1985). *Spoken and written language*. Victoria: Deakin University Press.

Hanson-Smith, E. (2016). Teacher education and technology. *The Routledge handbook of language learning and technology*, 210-222.

Harfitt, G. J. and Chan, C. (2017). Constructivist learning theories in teacher education programmes: a pedagogical perspective. *International handbook of research on teacher education*, 545-561.

Hargittai, E. (2002). Second-level digital divide: differences in people's online skills. *First Monday*, *7*(4).

Hargreaves, A., & Fullan, M. (2012). Professional capital: transforming teaching in every school. New York: Teachers College Press.

Hart, L. C. (2002). Preservice teachers' beliefs and practice after participating in an integrated content/methods course. *School Science & Mathematics,* 102, 4-15.

Hartley, D. (2007). Education policy and the 'inter-regnum'. *Journal of Education Policy, 22*(6), 695-708.

Hişmanoğlu, M., Ersan, Y. and Çolak, R. (2017). Mobile Assisted Language Teaching from Preparatory Program Efl Teachers' Perspectives1. *Bitlis Eren University Social Science Institute Journals*, 223.

Hockly, N. (2013). Mobile learning. *ELT Journal, 67*(1), 80-84.

Horton, W. (2012). *E-Learning by Design*, 2nd ed. John Wiley and Sons, Inc. Pfeiffer: San Francisco.

Hsu, L. (2016). Examining EFL teachers' technological pedagogical content knowledge and the adoption of mobile-assisted language learning: a partial least square approach. *Computer Assisted Language Learning, 29*(8), 1287-1297.

Hung, S. (2011). Pedagogical applications of Vlogs: An investigation into ESP learners' perceptions. *British Journal of Educational Technology, 42*(5), 736 – 746.

Hwang, W. Y., & Chen, H. S. (2013). Users' familiar situational contexts facilitate the practice of EFL in elementary schools with mobile devices. *Computer assisted language learning, 26*(2), 101-125.

Inggita, N. D., Ivone, F. M. and Saukah, A. (2019). How is MALL Implemented by Senior High School English Teachers?. *Jurnal Pendidikan Humaniora, 7*(3), 85-94.

Izquierdo, J., De la Cruz, V., Aquino, S., Sandoval Caraveo, M. C. and García, V. (2017). Teachers' use of ICTs in public foreign language education: evidence from secondary schools. *Comunicar. Revista de Comunicación y Educación, 50,* 33-41.

Jackson, B. S. (2017). *Korean University EFL Student Perspectives of Smartphone Applications (Apps) as Tools for Language Learning: An Action Research Study*. Doctoral dissertation, Capella University.

Jackson, K. and Bazeley, P. (2019). *Qualitative data analysis with NVivo*. SAGE Publications Limited.

Jaradat, R. M. (2014). Students' attitudes and perceptions towards using m-learning for French language learning: a case study on Princess Nora University. *International Journal ofLearning Management Systems, 2*(1), 33-44.

Jee, M. J. (2011). Web 2.0 technology meets mobile assisted language learning. *IALLT Journal of Language Learning Technologies, 41*(1), 161-175.

Jewitt, C. (2013). Multimodal methods for researching digital technologies. *The SAGE handbook of digital technology research*, 250-265.

Jewitt, C. (2009). *The Routledge Handbook of Multimodal Analysis.* London: Routledge.

Johnson, K. E. (2009). *Second language teacher education: a sociocultural perspective*. NewYork: Routledge

Johnson, T. L. (2018). *A Quantitative Inquiry: Intentions to Use Mobile Devices with Learning Management Systems by Higher Education Faculty and Students*. Doctoral dissertation, Northcentral University.

Johnson, K. E. and Golombek, P. R. (2018). Making L2 teacher education matter through Vygotskian-inspired pedagogy and research. In *The Routledge handbook of sociocultural theory and second language development* (pp. 443-456). Taylor and Francis.

Johnson, K. E. and Golombek, P. R. (2020). Informing and transforming language teacher education pedagogy. *Language Teaching Research, 24*(1), 116-127.

Joseph, S. and Uther, M., (2006). Mobile language learning with multimedia and multi-modal interfaces. In *2006 Fourth IEEE International Workshop on Wireless, Mobile and Ubiquitous Technology in Education (WMTE'06)* (pp. 124-128). IEEE.

Junco, R. (2014). iSpy: Seeing what students really do online. *Learning, Media and Technology, 39*(1), 75-89. http://dx.doi.org/10.1080/17439884.2013.771782

Joseph, S. R., & Uther, M. (2009). Mobile devices for language learning: Multimedia approaches. *Research and Practice in Technology Enhanced Learning, 4*(01), 7-32.

Kang, S. (2014). Factors influencing intention of mobile application use. *International Journal of Mobile Communications, 12*(4), 360-379.

Kazemi, E., Lampert, M. and Franke, M. (2009). Developing pedagogies in teacher education to support novice teachers' ability to enact ambitious instruction. In R. Hunter, B. Bicknell & T. Burgess (Eds), *Crossing divides: Proceedings of the 32nd Annual Conference of the Mathematics Education Research Group of Australasia* (Vol. 1, pp. 12–30). Palmerston North, New Zealand: Mathematics Education Research Group of Australasia.

Kessler, G. (2006) Assessing CALL teacher training. In: Hubbard, P. and Levy, M. (eds.), *Teacher education in CALL*. Amsterdam: John Benjamins, 23–42.

Kessler, G. and Hubbard, P. (2017). 19 Language Teacher Education and Technology. In *The handbook of technology and second language teaching and learning*, 278-292.

Kilmanova, L. and Dembovskaya, S. (2013). L2 identity, discourse, and social networking in Russian. *Language Learning and Technology, 17(*1), 69 – 88.

Kim, D., Rueckert, D., Kim, D.-J. and Seo, D. (2013). Students' perceptions and experiences of mobile learning. *Language Learning & Technology, 17*(3), 52–73.

Kincheloe, J.L. (2003). *Teachers as researchers: qualitative inquiry as a path to empowerment* (2nd Ed). New York: Routledge Falmer.

Koehler, M. J., Mishra, P. and Yahya, K. (2007). Tracing the development of teacher knowledge in a design seminar: Integrating content, pedagogy and technology. *Computers & Education, 49*(3), 740–762.

Koh, J. H. L. and Divaharan, S. (2011). Developing pre-service teachers' technology integration expertise through the TPACK-developing instructional model. *Journal of Educational Computing Research, 44*(1), 35-58.

Kosnik, C., Menna, L., Dharamshi, P. and Beck, C. (2018). Constructivism as a framework for literacy teacher education courses: the cases of six literacy teacher educators. *European Journal of Teacher Education, 41*(1), 105-119.

Koral Gümüsoglu, E. and Akay, E. (2017). Measuring technology acceptance level of teachers by using unified theory of acceptance and use of technology. *International Journal of Language Education and Teaching, 5*(4), 378-394.

Köksal, D. (2004). To Kill the Blackboard? Technology in Language Teaching and Learning. *Turkish Online Journal of Educational Technology-TOJET, 3(*3), 62-72.

Köksal, D. and Ulum, Ö. G. (2018). The state of EFL teacher education in Turkey: From past to present. *ELT Research Journal, 7*(4), 161-174.

Kress, G. (2000a). Design and transformation: New theories of meaning. In B. Cope & M. Kalantzis (Eds.), *Multiliteracies: Literacy learning and the design of social futures* (pp.153-161). London: Routledge.

Kress, G. (2000b). Multimodality. In B. Cope & M. Kalantzis (Eds.), *Multiliteracies: Literacy learning and the design of social futures* (pp.182-202). London: Routledge.

Kress, G. (2010). *Multimodality: A social semiotic approach to contemporary communication.* London: Routledge.

Kress, G., Jewitt, C., Bourne, J., Franks, A., Hardcastle, J., Jones, K. and Reid, E. (2005). *English in Urban Classrooms: A Multimodal Perspective on Teaching and Learning*. London: Routledge.

Kress, G., Jewitt, C., Ogborn, J and Tsatsarelis, C (2001). *Multimodal teaching and learning*. London: Continuum Press.

Kress, G.R. and van Leeuwen, T. (2001). *Multimodal Discourse: the modes and media of contemporary communication*. London: Edward Arnold.

Kukulska-Hulme, A. and Traxler, J. (2005). *Mobile Learning: A Handbook for Educators and Trainers.* London: Routledge.

Kukulska-Hulme, A. and Shield, L. (2008). An overview of mobile assisted language learning: From content delivery to supported collaboration and interaction. *ReCALL, 20*(3), 271-289.

Kukulska-Hulme, A. (2010). Learning cultures on the move: Where are we heading? *Educational Technology & Society, 13*(4), 4-14.

Kukulska-Hulme, A. (2013). *Re-skilling language learners for a mobile world*. Monterey, CA.

Kukulska-Hulme, A., Lee, H., & Norris, L. (2017). Mobile learning revolution: Implications for language pedagogy. In *The handbook of technology and second language teaching and learning*, 217-233.

Kukulska-Hulme, A. and Viberg, O. (2018). Mobile collaborative language learning: State of the art. *British Journal of Educational Technology, 49*(2), 207-218.

Kuru Gönen, S. İ. (2012). *A study on reflective reciprocal peer coaching an application in pre-service English language teaching context.* Doctoral dissertation. Anadolu University.

Kuru Gönen, S. İ. (2019). A qualitative study on a situated experience of technology integration: reflections from pre-service teachers and students. *Computer Assisted Language Learning, 32*(3), 163-189.

Kuure, L., Molin-Juustila, T., Keisanen, T., Riekki, M., Iivari, N. and Kinnula, M. (2016). Switching perspectives: From a language teacher to a designer of language learning with new technologies. *Computer Assisted Language Learning, 29*(5), 925-941.

Küçük, I. G., Eser, U., Çevik, M. and Öngel, K. (2020). Mobile phone usage characteristics of children at school and parents' approach. *Medicine, 9*(2), 503-8.

Lai, C. H., Jong, B. S., Hsia, Y. T., & Lin, T. W. (2020). Use of a Mobile Anonymous Question-Raising System to Assist Flipped-Classroom Learning. *iJIM, 14*(3), 66-80.

Lee, G. J. (2019). *Examining the impact of MALL integration on ESL and EFL teachers and students.* Doctoral dissertation, Alliant International University.

Lee, S. Y., Lo, Y. H. G., & Chin, T. C. (2019). Practicing multiliteracies to enhance EFL learners' meaning making process and language development: a multimodal Problem-based approach. *Computer Assisted Language Learning*, 1-26.

Lenci, S. (2020). *Technology and language learning: from CALL to MALL.* Doctoral Dissertation, Padova University.

Levitt, F. (2017). A MALL (Mobile-assisted Language Learning) App to Teach Basic Literacy Skills in EFL or in any Phonetic Language. *International Conference on Education Proceedings.* 144-170.

Li, Z., Dursun, A., and Hegelheimer, V. (2017). Technology and L2 writing. *The handbook of technology and second language teaching and learning,* 77-92.

Lim, F. V. (2018). Developing a systemic functional approach to teach multimodal literacy. *Functional Linguistics, 5*(1), 13.

Ling, R. (2010). Texting as a life phase medium. *Journal of Computer-Mediated Communication, 15*(2), 277-292. doi:10.1111/j.1083-6101.2010.01520.x

Liu, Y. (2016). *Improving Chinese university students' speaking performance in mobile-assisted English learning*. Doctoral dissertation, University of Illinois.

Lombard, M., Snyder-Duch, J. and Bracken, C. C. (2004). A call for standardization in content analysis reliability. *Human Communication Research, 30*(3), 434.

Looi, C. K., Sun, D., Seow, P. and Chia, G. (2014). Enacting a technology-based science curriculum across a grade level: The journey of teachers' appropriation. *Computers & Education, 71,* 222-236.

Lord, G. and Lomicka, L. (2011). Calling on educators: Paving the way for the future of technology and CALL. In N. Arnold and L. Ducate (Eds.). *Present and future promises of CALL: From theory and research to new directions in language teaching* (pp. 441-470). San Marcos, TX: CALICO.

Lozano, A. A. and Izquierdo, J. (2019). Technology in Second Language Education: Overcoming the Digital Divide. *Emerging Trends in Education, 2*(3), 52-70.

Mac Callum, K. and Jeffrey, L. (2013). The influence of students' ICT skills and their adoption of mobile learning. *Australasian Journal of Educational Technology*,*29*(3), 303-314.

Magal-Royo, T., Giménez-López, J. L., Pairy, B., García-Laborda, J. and Gonzalez-del Rio, J. (2011). Multimodal application for foreign language teaching. In *Interactive Collaborative Learning (ICL), 2011 14th International Conference on* (pp. 145-148). IEEE.

Mansilla, V. B. and Jackson, A. (2012). Preparing Our Youth to Engage the World. *Council of Chief State School Officers. Edsteps Initiative and Asia Society Partnership for Global Learning (CCSSO), 21*(3).

Mei, B., Brown, G. T. and Teo, T. (2018). Toward an understanding of preservice English as a Foreign Language teachers' acceptance of computer-assisted language learning 2.0 in the People's Republic of China. *Journal of Educational Computing Research, 56*(1), 74-104.

Mercer, N. and Fisher, E. (1997). The importance of talk. In *Wegerif, R., & Scrimshaw, P. (Eds.), Computers and talk in the primary classroom* (pp. 13–21). Cleveden, UK: Multilingual Matters.

Meskill, C. (2009). CMC in language teacher education: Learning with and through instructional conversations. *Innovation in Language Learning and Teaching, 3*(1), 51–63.

Meyer, B. (2015). Learning through telepresence with iPads: placing schools in local/global communities. *Interactive Technology and Smart Education, 12*(4), 270-284.

Miangah, T. M. and Nezarat, A. (2012). Mobile-assisted language learning. *International Journal of Distributed and Parallel Systems (IJDPS), 3*(1), 309-319.

Miles, M. B., & Huberman, A. M. (1994). *Qualitative data analysis: An expanded sourcebook*. sage.

Miller, C. and Doering, A. (2014). *The new landscape of mobile learning: Redesigning education in an app-based world.* Hoboken: Taylor and Francis.

Milutinović, M., Labus, A., Stojiljković, V., Bogdanović, Z. and Despotović-Zrakić, M. (2015). Designing a mobile language learning system based on lightweight learning objects. *Multimedia Tools and Applications, 74*(3), 903-935.

Min, Q., Ji, S. and Qu, G. (2008). Mobile commerce user acceptance study in China: A revised mobile learning. *British Journal of Educational Technology, 46*(4), 699-712.

Mishra, P. and Koehler, M. J. (2008, March). Introducing technological pedagogical content knowledge. In *Annual meeting of the American Educational Research Association (*pp. 1-16).

Montebello, M. (Ed.). (2019). *Handbook of Research on Digital Learning.* IGI Global.

Moran, M., Hawkes, M. and El Gayar, O. (2010). Tablet personal computer integration in higher education: applying the unified theory of acceptance and use technology model to understand supporting factors. *Journal of Educational Computing Research, 42*(1), 79-101.

Mossberger, K., Tolbert, C. J. and Stansbury, M. (2003). *Virtual inequality: Beyond the digital divide.* Georgetown University Press.

Mulder, D. J. (2016). Pre-service teachers and technology integration: International cases and generational attitudes toward technology in education. In *Teacher Education: Concepts, Methodologies, Tools, and Applications* (pp. 730-752). IGI Global.

Ng, S., Lui, A. K. and Wong, Y. K. (2015). An adaptive mobile learning application for beginners to learn fundamental japanese language. In *Technology in Education. Transforming Educational Practices with Technology* (pp. 20-32). Springer, Berlin, Heidelberg.

Nguyen, M. H. (2017). Negotiating contradictions in developing teacher identity during the EAL practicum in Australia. *Asia-Pacific Journal of Teacher Education, 45*(4), 399–415. https://doi.org/10.1080/1359866X.2017.1295132.

Nguyen, M. H. (2019). *English language teacher education: a sociocultural perspective on preservice teachers' learning in the professional experience*. Springer.

Nguyen, M. H. and Brown, J. (2016). Influences on preservice writing instruction during the secondary English as an additional language practicum in Australia. *Australian Journal of Teacher Education, 41*(8), 84-101.

Osakwe, J. O., Nomusa, D., and Jere, N. (2017). Teacher and Learner Perceptions on Mobile Learning Technology: A Case of Namibian High Schools from the Hardap Region. *Higher Educator-An International Journal, 1*(1), 13-41.

Oh, E. and Reeves, T. C. (2014). Generational differences and the integration of technology in learning, instruction, and performance. In J. M. Spector & ... (Eds.), *Handbook of Research on Educational Communications and Technology* (pp. 819–828). New York: Springer.

Olson, K. E., O'Brien, M. A., Rogers, W. A., and Charness, N. (2011). Diffusion of technology: frequency of use for younger and older adults. *Ageing international, 36*(1), 123-145.

Ottenbreit-Leftwich, A., Glazewski, K. and Newby, T. (2010). Preservice technology integration course revision: A conceptual guide. *Journal of Technology and Teacher Education, 18*(1), 5-33.

Oye, N. N., A.Iahad, N. N. and Ab.Rahim, N. N. (2014). The history of UTAUT model and its impact on ICT acceptance and usage by academicians. *Education & Information Technologies, 19*(1), 251-270.

Öz, H. (2014). Prospective English teachers' ownership and usage of mobile devices as m-learning tools. *Procedia-Social and Behavioral Sciences, 141,* 1031-1041.

Öz, H. (2015). An Investigation of Preservice English Teachers' Perceptions of Mobile Assisted Language Learning. *English Language Teaching*, *8*(2), 22-34.

Özdemir, S. (2017). Teacher views on barriers to the integration of information and communication technologies (ict) in Turkish teaching. *Internatıonal Journal Of Envıronmental & Scıence Educatıon, 12*(3), 505-521.

Özel, A. G. and Arikan, A. (2015). The use of the internet and web 2.0 tools among EFL instructors. *Mediterranean Journal of Humanities, 5*, 313-325.

Pachler, N. (2009). Research methods in mobile and informal learning: Some issues. In G. Vavoula, N. Pachler, & A. Kukulska-Hulme (Eds.), *Researching Mobile Learning: Frameworks, Tools and Research Designs*, 1-15. Bern, Swizterland: Peter Lang.

Park, H. (2005). Design and development of a mobile learning management system adaptive to learning style of students. *Proceedings of the IEEE International Workshop on Wireless and Mobile Technologies in Education (WMTE'05)*.

Parks, S., Huot, D., Hamers, J. and Lemonnier, F. H. (2003) Crossing boundaries: multimedia technology and pedagogical innovation in a high school class. *Language Learning & Technology, 7*(1): 28–45.

Pegrum, M. (2014). *Mobile Learning: Languages, Literacies and Cultures*. Basingstoke: Palgrave Macmillan.

Peters, M. (2006) Developing computer competencies for pre-service language teachers. Is one course enough? In: Hubbard, P. and Levy, M. (eds.), *Teacher education in CALL*. Amsterdam: John Benjamins, 152–165.

Pierce, J. (2019). Digital Divide. The International Encyclopedia of Media Literacy, 1-8.

Pincas, A. (2004). Using Mobile Phone Support for Use of Greek During the Olympic Games 2004. *International Journal of Instructional Technology and Distance Learning, 1*(6).

Poole, E. S., Miller, A. D., Xu, Y., Eiriksdottir, E., Catrambone, R. and Mynatt, E. D. (2011). The place for ubiquitous computing in schools: lessons learned from a school-based intervention for youth physical activity. In *Proceedings of the 13th international conference on Ubiquitous computing* (pp. 395-404). ACM.

Prensky, M. (2001). Digital natives, digital immigrants. *On the horizon, 9*(5).

Quinn, C. (2000). mLearning: Mobile, wireless, in-your-pocket learning. *LiNE Zine*, 2006.

Rau, P. L. P., Gao, Q. and Wu, L. M. (2008). Using mobile communication technology in high school education: Motivation, pressure, and learning performance. *Computers & Education, 50*(1), 1-22.

Richards, J. C. and Farrell, T. S. C. (2005). *Professional development for language teachers: Strategies for teacher learning.* Cambridge University Press.

Riel M.M. (2017) Digital Technology in Service of Action Research. In: Rowell L., Bruce C., Shosh J., Riel M. (eds) *The Palgrave International Handbook of Action Research*. Palgrave Macmillan, New York. https://doi.org/10.1057/978-1-137-40523-4_38

Rosell-Aguilar, F. (2007). Top of the pods-in search of podcasting "pedagogy" for language learning, *Computer-assisted language learning, 20*(5), 471-492.

Rosenthal, R. and Rosnow, R. L. (1991). *Essentials of behavioral research: Methods and data analysis* (2nd Ed.). New York: McGraw Hill.

Sakulprasertsri, K. (2020). Teachers' Integration of Multimodality into 21st Century EFL Classrooms in Thailand: Practice and Perception. *LEARN Journal: Language Education and Acquisition Research Network, 13*(2), 225-242.

Salman, I. S. (2014). mLearning: How to use mobile devices for learning? *IT e-Magazine, 12*, 1-3.

Sandberg, J., Maris, M. and De Geus, K. (2011). Mobile English learning: an evidence-based study with fifth graders. *Computers and Education, 57*, 1334-1347.

Scheerder, A., van Deursen, A. and van Dijk, J. (2017). Determinants of Internet skills, uses and outcomes: a systematic review of the second-and third-level digital divide. *Telematics and informatics, 34*(8), 1607-1624.

Sert, O. aand Li, L. (2019). A qualitative study on CALL knowledge and materials design: Insights from pre-service EFL teachers. In *Computer-Assisted Language Learning: Concepts, Methodologies, Tools, and Applications* (pp. 2036-2051). IGI Global.

Sezgin, S. and Yüzer, T. V.(2017). Games As Futuristic Tools: Looking For An Advanced Definition. In *Conference Proceedings of the 10th International Conference of Education, Research and Innovation ICERI* (pp. 8512-8521).

Sharples, M., Taylor, J. and Vavoula, G. (2005, October). Towards a theory of mobile learning. In *Proceedings of mLearn* (Vol. 1, No. 1, pp. 1-9).

Sharples, M., Taylor, J. and Vavoula, G. (2007). A theory of learning for the mobile age. In R.Andrews & C. Haythornthwaite (Eds.). *The Sage handbook of e-learning research* (pp. 221-247). London: Sage.

Singh, M. (2010). M-learning: A new approach to learn better. *International Journal of Education and Allied Sciences, 2*(2), 65 – 72.

Slaouti, D. and Motteram, G. (2006) Reconstructing practice. Language teacher education and ICT. In: Hubbard, P. and Levy, M. (eds.), *Teacher education in CALL*. Amsterdam: John Benjamins, 81–97.

Sole, R.C, Calic, J. and Neijmann, D. (2010). A social and self-reflective approach to MALL. *ReCALL, 22*, 39-52.

Son, J.-B. (2004). Teacher development in e-learning environments. In J.-B. Son (Ed.), Computer-assisted language learning: Concepts, contexts and practices (pp. 107-122). APACALL Book Series Volume 1. Lincoln, NE: iUniverse.

Son, J.-B. (2006). Using online discussion groups in a CALL teacher training course. *RELC Journal, 37*(1), 123–135.

Son, J.-B. (2014). Learning about computer-assisted language learning: Online tools and professional development. In J.-B. Son (Ed.), *Computer-assisted language learning: Learners, teachers and tools* (pp. 173–186). APACALL Book Series Volume 3. Newcastle upon Tyne, UK: Cambridge Scholars Publishing.

Son, J. B. (2018). *Teacher development in technology-enhanced language teaching*. Springer International Publishing.

Starks, H., & Brown Trinidad, S. (2007). Choose your method: A comparison of phenomenology, discourse analysis, and grounded theory. *Qualitative health research*, *17*(10), 1372-1380.

Stockwell, G. (2007). Vocabulary on the move: Investigating an intelligent mobile phone-based vocabulary tutor. *Computer Assisted Language Learning*, *20*(4), 365-383.

Stockwell, G. and Hubbard, P. (2013). *Some emerging principles for mobile-assisted language learning*. Monterey, CA: The International Research Foundation for English Language Education.

Strauss, A. and Corbin, J. (1998). *Basics of qualitative research techniques*. Thousand Oaks, CA: Sage publications.

Sullivan, G. M., & Feinn, R. (2012). Using effect size—or why the P value is not enough. *Journal of graduate medical education*, *4*(3), 279-282.

Şahin, D., & Yılmaz, R. M. (2020). The effect of Augmented Reality Technology on middle school students' achievements and attitudes towards science education. *Computers & Education*, *144*, 103710.

Şahin Kızıl, A. (2017). EFL learners in the digital age: An investigation into personal and educational digital engagement. *RELC Journal*, *48*(3), 373-388.

Taiwo, A. A. and Downe, A. G. (2013). The theory of user acceptance and use of technology (UTAUT): A meta-analytic review of empirical findings. *Journal of Theoretical & Applied Information Technology*, *49*(1), 48.

Tan, L. and Zammit, K. (2018). *Teaching writing and representing in the primary school years* (2nd ed.). Melbourne, Australia: Pearson Australia.

Teo, T. and Noyes, J. (2014). Explaining the intention to use technology among pre-service teachers: a multi-group analysis of the Unified Theory of Acceptance and Use of Technology. *Interactive Learning Environments*, *22*(1), 51-66.

Tezci, E. (2011). Turkish primary school teachers' perceptions of school culture regarding ICT integration. *Educational Technology Research and Development*, *59*(3), 429-443.

Thomas, M., Reinders, H. and Warschauer, M. (2012). *Contemporary studies in linguistics: Contemporary computer-assisted language learning.* London, England: Bloomsbury Academic.

Thomas, T. D., Singh, L. and Gaffar, K. (2013). The utility of the UTAUT model in explaining mobile learning adoption in higher education in Guyana. *International Journal of Education and Development Using Information and Communication Technology*, *9*(3), 71-87.

Thornton, P. and Houser, C. (2002) M-learning: Learning in transit. In: Lewis, P. (ed.) The changing face of CALL: A Japanese perspective. *The Netherlands: Swets & Zeitlinger*, 229- 243.

Thornton, P., & Houser, C. (2005). Using mobile phones in English education in Japan. *Journal of Computer Assisted Learning,21*(3), 217-228.

Tok, H. (2010). TEFL textbook evaluatıon: From teachers perspectıves. *Educational Research and Reviews, 5*(9), 508-517.

Torsani, S. (2016). CALL teacher education: Language teachers and technology integration. Springer.

Traxler, J. (2005) Mobile learning: Transforming the delivery of education and. *International Review on Research in Open and distance learning, 8* (2), 346- 875.

Traxler, J. E. and Wishart, J. E. (2011). *Making mobile learning work: Case studies of practice*. ESCalate, The Higher Education Academy.

TSI (2020). *Hanehalkı Bilişim Teknolojileri Kullanım Araştırması*, 2004-2020. Retrieved from: http://www.tuik.gov.tr/PreTablo.do?alt_id=1028

Uzunboylu, H. and Ozdamli, F. (2011). Teacher perception for m-learning: scale development and teachers' perceptions. *Journal of Computer assisted learning, 27*(6), 544-556.

van Deursen, A. J., and van Dijk, J. A. (2019). The first-level digital divide shifts from inequalities in physical access to inequalities in material access. *New Media & Society, 21*(2), 354-375.

van Deursen, A. J., Helsper, E. J. and Eynon, R. (2016). Development and validation of the Internet Skills Scale (ISS). *Information, Communication & Society, 19*(6), 804-823.

van Dijk, J. A. (2006). Digital divide research, achievements and shortcomings. *Poetics, 34*(4-5), 221-235.

van Leeuwen, T. (2005) *Introducing Social Semiotics*. London: Routlegde.

Van Volkom, M., Stapley, J. C. and Amaturo, V. (2014). Revisiting the digital divide: Generational differences in technology use in everyday life. *North American Journal of Psychology, 16*(3), 557-574.

Vavoula, G., Sharples, M., Rudman, P., Meek, J., and Lonsdale, P. (2009). Myartspace: Design and Evaluation of Support for Learning with Multimedia Phones between Classrooms and Museums. *Computers & Education, 53*(2), 286–299.

Venkatesh, V., Morris, M., Davis, G. and Davis, F. (2003). User acceptance of information technology: Toward a unified view. *MIS Quarterly: Management Information Systems, 27*(3), 425-478.

Venkatesh, V., Thong, J. Y. and Xu, X. (2012). Consumer acceptance and use of information technology: extending the unified theory of acceptance and use of technology. *MIS quarterly, 36*(1), 157-178.

Viberg, O. and Grönlund, Å. (2013). Systematising the field of mobile assisted language learning. *International Journal of Mobile and Blended Learning (IJMBL), 5*(4), 72-90.

Villegas, A. M. and Lucas, T. (2002). Preparing culturally responsive teachers: Rethinking the curriculum. *Journal of teacher education, 53*(1), 20-32.

Walsh, S. and Mann, S. (2015). Doing reflective practice: a data-led way forward. *ELT Journal, 69*(4), 351-362.

Wang, Y. M. and Chen, V. D. T. (2006). Untangling the confounding perceptions regarding the stand alone IT course. *Journal of Educational Technology Systems, 35*(2), 133-150.

Wang, S. and Smith, S. (2013). Reading and grammar learning through mobile phones. *Language Learning and Technology, 17*(3), 117-134.

Wang, Y. S., Wu, M. C. and Wang, H. Y. (2009). Investigating the determinants and age and gender differences in the acceptance of mobile learning. *British journal of educational technology, 40*(1), 92-118.

Warschauer, M. and Meskill, C. (2000). Technology and second language learning. In J. Rosenthal (Ed.), *Handbook of undergraduate second language education* (pp. 303-318). Mahwah, New Jersey: Lawrence Erlbaum.

Wei, K. K., Teo, H. H., Chan, H. C. and Tan, B. C. (2011). Conceptualizing and testing a social cognitive model of the digital divide. *Information Systems Research, 22*(1), 170-187.

Weijs-Perrée, M., Van den Berg, P., Arentze, T., & Kemperman, A. (2017). Social networks, social satisfaction and place attachment in the neighborhood. *Region, 4*(3), 133-151.

Weninger, C. (2020). Multimodality in critical language textbook analysis. *Language, Culture and Curriculum,* 1-14.

Williams, M. D., Rana, N. P. and Dwivedi, Y. K. (2015). The unified theory of acceptance and use of technology (UTAUT): A literature review. *Journal of Enterprise Information Management, 28*(3), 443-488.

Winke, P. and Goertler, S. (2008). Did we forget someone? Students' computer access and literacy for CALL. *Calico Journal, 25*(3), 482-509.

Wong, L-H. and Looi, C-J. (2010). Vocabulary learning by mobile-assisted content creation and social meaning-making: Two case studies. *Journal of Computer Assisted Learning, 26,* 421-433.

Yavuz-Konokman, G., Yanpar-Yelken, T., Sancar-Tokmak, H. (2013). An investigation of primary school pre-service teachers' perception on their Tpack in terms of a variety factors: Mersin university case. *Kastamonu Eğitim Dergisi. 21*(2), 665-684.

Yeh, C. Y. (2018). *Investigating technology integration in United States TESOL teacher preparation programs*. Doctoral dissertation, University of Delaware.

Yılmaz, M. (2007) Instructional technology in training primary school teacher. *Gazi Eğitim Fakültesi Dergisi. 27*(1), 155-167.

Yokuş, G. (2016). Eğitim fakültesi öğrencilerinin mobil öğrenmeye ilişkin görüşlerinin incelenmesi ve eğitim bilimleri alanına yönelik mobil uygulama geliştirme çalışması: mobil akademi. MA Thesis, Mersin University.

YÖK (2018). *Öğretmen Yetiştirme Lisans Programları*. Ankara Üniversitesi Basımevi Müdürlüğü.

Yuan, R., & Lee, I. (2014). Pre-service teachers' changing beliefs in the teaching practicum: Three cases in an EFL context. System, 44, 1–12. https://doi.org/10.1016/j.system.2014.02.002.

Zeichner, K. (2012). The turn once again toward practice-based teacher education. *Journal of teacher education*, *63*(5), 376-382.

Zengin, O. (2020). Mobile Technologies Course Design: The Use of ICT Skills, Attitudes, and Self-Efficacy in EFL Instructors. In *ICT-Based Assessment, Methods, and Programs in Tertiary Education* (pp. 232-256). IGI Global.

Zhang, Y. and Deroo, M. (2020). Technology Instruction in Language Teacher Education Programs. In *Language Learning and Literacy: Breakthroughs in Research and Practice* (pp. 679-700). IGI Global.

APPENDICES

Appendix-1: The Sample of Consent Form

Bu çalışma, **Çokmodlu Mobil Destekli Dil Eğitimi Sınıf Uygulamaları: Öğretmen Adayı Eğitimi Üzerine Bir Çalışma** başlıklı bir araştırma çalışması olup **öğretmen adaylarına bu doğrultuda eğitim vermek ve bu alandaki görüşlerini almak** amacını taşımaktadır. Çalışma, **Gülin ZEYBEK** tarafından yürütülmekte ve sonuçları ile **İngilizce Öğretmenliğinde Çokmodlu Mobil Destekli Öğrenme alanının** gelişimine ışık tutulacaktır.

- Bu çalışmaya katılımınız gönüllülük esasına dayanmaktadır.
- Çalışmanın amacı doğrultusunda, anket, yansıtıcı günlük yazdırma, ders planı hazırlatma ve görüşme yapılarak sizden veriler toplanacaktır.
- İsminizi yazmak ya da kimliğinizi açığa çıkaracak bir bilgi vermek zorunda değilsiniz/araştırmada katılımcıların isimleri gizli tutulacaktır.
- Araştırma kapsamında toplanan veriler, sadece bilimsel amaçlar doğrultusunda kullanılacak, araştırmanın amacı dışında ya da bir başka araştırmada kullanılmayacak ve gerekmesi halinde, sizin (yazılı) izniniz olmadan başkalarıyla paylaşılmayacaktır.
- İstemeniz halinde sizden toplanan verileri inceleme hakkınız bulunmaktadır.
- Sizden toplanan veriler araştırma sonunca kadar korunacak ve araştırma bitiminde arşivlenecek veya imha edilecektir.
- Veri toplama sürecinde/süreçlerinde size rahatsızlık verebilecek herhangi bir soru/talep olmayacaktır. Yine de katılımınız sırasında herhangi bir sebepten rahatsızlık hissederseniz çalışmadan istediğiniz zamanda ayrılabileceksiniz. Çalışmadan ayrılmanız durumunda sizden toplanan veriler çalışmadan çıkarılacak ve imha edilecektir.

Gönüllü katılım formunu okumak ve değerlendirmek üzere ayırdığınız zaman için teşekkür ederim. Çalışma hakkındaki sorularınızı Süleyman Demirel Üniversitesi İngilizce Öğretmenliği bölümünden Gülin ZEYBEK'e yöneltebilirsiniz.

Araştırmacı Adı : Gülin ZEYBEK
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Bu çalışmaya tamamen kendi rızamla, istediğim takdirde çalışmadan ayrılabileceğimi bilerek verdiğim bilgilerin bilimsel amaçlarla kullanılmasını kabul ediyorum.
(Lütfen bu formu doldurup imzaladıktan sonra veri toplayan kişiye veriniz.)

Katılımcı Ad ve Soyadı:
İmza:
Tarih:

Appendix 2: M-MALL Training Model Booklet

M-MALL TRAINING MODEL

BOOKLET

GÜLİN ZEYBEK
| SUPERVISOR: ASSOC. DR. S. IPEK KURU GÖNEN

What is M-MALL?

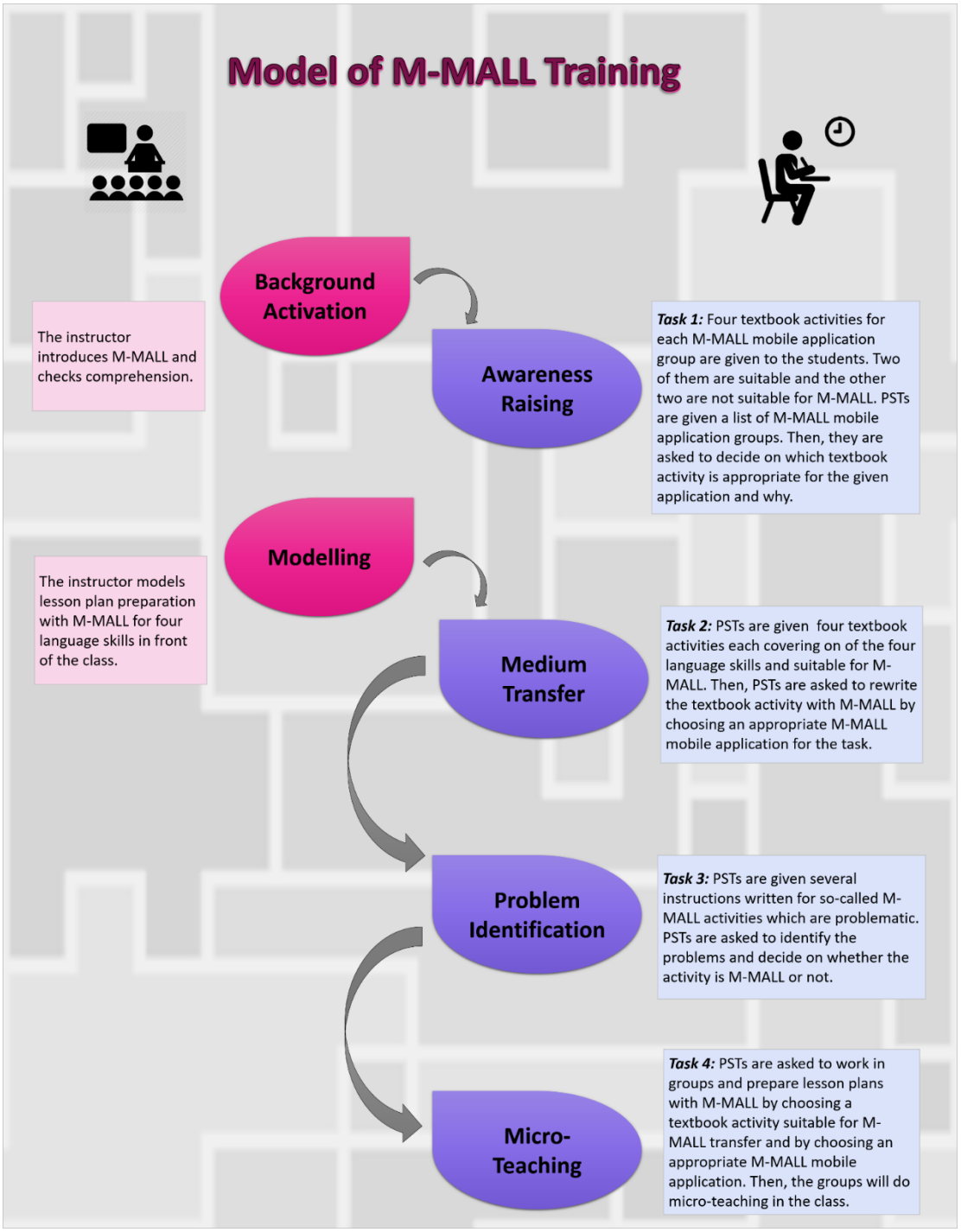
Multimodality has been originated from Michael Halliday's ideas on language as a social semiotic system and was developed in the early 2000s (Kress and van Leeuwen, 2001; Kress et al, 2001, 2005; van Leeuwen, 2005; Jewitt, 2009). It has been defined as combining various semiotic modalities such as written, spoken, visual and bodily resources, which can have complementary roles, reinforce each other or can be ordered hierarchically, for making meaning (Kress and van Leeuwen, 2001, p. 20).

Nowadays, people have more access to a greater variety of media offering and combining various modes for making meaning, namely 'orchestration of meaning' as stated by Kress et al. (2001). They are accepted as agents who are making meaning and producing texts and continuously changing the representational resources during this time. In other words, they, as makers of text, "stretch, change, adapt, and modify all of the elements used" (Kress, 2000a, p.155) and mobile devices are clear examples enabling these processes.

Integration of mobile devices into the learning process provides multimodality for learners in making meaning, which is an essential point in English language teaching. Multimodality enables learners to find more accessible and usable environments, since it allows adaptability to the environment considering the cognitive abilities and limitations of learners (Magal-Royo et al., 2011). Furthermore, multimodality of mobile devices allows learners to use voice, stylus or keyboard interchangeably based on their needs for communication (Magal-Royo et al., 2011).

Learning through these electronic mobile devices such as smartphones, mobile music and video players and handheld or palmtop devices is called Mobile Learning or in language learning context MALL (Quinn, 2000; Vavoula et al., 2005; Traxler, 2005; Sharples, Taylor and Vavoula, 2007; Kukulska-Hulme & Shield, 2008; Sandberg, Maris & de Geus, 2011; Crompton, 2013a; Hockly, 2013). Enabling learners to be in multiple contexts thanks to its being ubiquitous, MALL provides learners getting engaged with conversations in various places (Sharples, Taylor & Vavoula, 2007). Therefore, MALL is also defined as learning in and across multiple and ever changing contexts (Pachler, 2009; Crompton, 2013a; Hockly, 2013).

As the name suggests, M-MALL is the combination and abbreviation of the terms Multimodality and Mobile Assisted Language Learning. Considering the way people make meaning in their daily lives by combining various modes, it will surely provide many benefits for foreign language learners to get engaged with mobile technologies that make several modes available at a time for them in this language learning process. Furthermore, the use of multimodal mobile technologies into language teaching requires some knowledge in terms of where, when and how this integration can take place in. At this point, this M-MALL Training Model presented here aims to help foreign language pre-service teachers (PSTs) so that they can enhance their professional skills on M-MALL.


Model of M-MALL Training
Background Activation
The instructor introduces M-MALL and checks comprehension.
Awareness Raising
Task 1: Four textbook activities for each M-MALL mobile application group are given to the students. Two of them are suitable and the other two are not suitable for M-MALL. PSTs are given a list of M-MALL mobile application groups. Then, they are asked to decide on which textbook activity is appropriate for the given application and why.
Modelling
The instructor models lesson plan preparation with M-MALL for four language skills in front of the class.
Medium Transfer
Task 2: PSTs are given four textbook activities each covering on of the four language skills and suitable for M-MALL. Then, PSTs are asked to rewrite the textbook activity with M-MALL by choosing an appropriate M-MALL mobile application for the task.
Problem Identification
Task 3: PSTs are given several instructions written for so-called M-MALL activities which are problematic. PSTs are asked to identify the problems and decide on whether the activity is M-MALL or not.
Micro-Teaching
Task 4: PSTs are asked to work in groups and prepare lesson plans with M-MALL by choosing a textbook activity suitable for M-MALL transfer and by choosing an appropriate M-MALL mobile application. Then, the groups will do micro-teaching in the class.

Background Activation

The instructor introduces M-MALL through Thinglink and checks comprehension through Cram applications. In order to see the content, please browse the link.

https://www.thinglink.com/scene/1135532952680136705

To go to link, please scan

Awareness Raising

The instructor introduces Multimodal Mobile Application Evaluation Checklist to the PSTs and explains and discusses each item one-by-one. The aim of introducing the checklist here is to provide an understanding of Multimodality in Mobile Applications and train PSTs on the selection of mobile applications in terms of M-MALL.

M-MALL Mobile Application Evaluation Checklist

Please evaluate the multimodal mobile application you are going to use in your lessons using the checklist below. If you have any confusion in how to evaluate your application, you can ask me for help.

Thank you, Gülin ZEYBEK.

Name Surname:
Name of the multimodal mobile application:

The Multimodal Mobile Application I select;

1. includes image	☐
2. includes writing	☐
3. includes speech	☐
4. includes animation	☐
5. allows content interactivity	☐
6. allows group work	☐
7. allows individualized experience	☐
8. allows confidentiality of assessment results	☐
9. allows feedback	☐
11. allows communication and collaboration with peers	☐
12. allows communication and collaboration with teachers	☐
12. allows creating and	☐
13. allows sharing documents	☐
14. is motivating	☐
14. provides continuous access	☐
15. is free	☐
16. is up-to-date	☐
17. is popular in terms of download rate	☐
18. is popular in terms of average rating	☐
19. is popular in terms of users' comments	☐
20. enables experience in different platforms (downloaded, web-based)	☐

TASK 1: The PSTs will be given two M-MALL mobile applications and asked to evaluate the applications using the list. In-class discussions will be held upon the choices of PSTs on the evaluation checklist.

1. Padlet 2. HP Reveal

TASK 2: After introducing the Multimodal Mobile Application Evaluation Checklist, the instructor introduces seven groups of M-MALL mobile applications: video-based tools, visual sketching and note-taking tools, mind-mapping tools, interactive smartboard tools, augmented reality tools, online classroom tools and quiz tools. These applications are all grouped according to the features that they provide for both teachers and students. Also, the language skills that they address are taken into consideration in classification.

Then, the instructor gives PSTs four textbook activities for each group of applications and asks PSTs to read the activities and decide on which activity is suitable for M-MALL transfer with the given M-MALL mobile applications. Class discussions will be held for each group of M-MALL mobile applications.

If someone wants to include M-MALL with a specific textbook activity, s/he can do it. However, what is important here is that transferring the medium from a textbook task to a M-MALL task needs to be reasonable in terms of practicality, time-management and cost. In other words, if dealing with an M-MALL activity is time-consuming and require extra unnecessary effort, while using the textbook activity is leading more fruitful results, there is no need to integrate M-MALL.

On the other hand, if a textbook activity ‘appropriate’ for M-MALL, i.e. it requires internet search, dealing with several modes at a time for making meaning, collaboration and active participation, and will become more motivating for the students after the integration, then PSTs should consider a suitable M-MALL mobile application. Therefore, raising PSTs awareness on which textbook activity is ‘appropriate’ is quite significant in this training process.

The textbook activities marked with an asterisk (*) are ‘appropriate’ in terms of M-MALL integration.

Group 1: Video-based Tools

In this group, the M-MALL mobile applications enable the users to record voice or video and share with others in the classroom. Users can comment on the content etiher by writing, voice or video. These applications can be used to enhance students' speaking and listening skills. They provide a motivating environment for students and allow individual feedback for sharings both from the teacher and peers.

Flipgrid

It is a video discussion platform that allows users to share their own videos especially their own recordings on a topic assigned. Teachers spark discussion by posting topics and questions to a class, school, professional learning community, or the world. Students record, upload, view, react, and respond to each other's short videos.

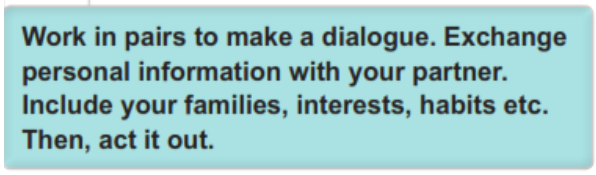
Recap

It supports features for teachers and students to engage in chat and video discussions in the Recap Queue. With this application, students can view Journeys, respond to questions with chat and video, and ask questions for private and public discussion. All actions get prompted within the application, and are setup from the teacher account accessed through the web.

Instruction: Read the activities taken from a high school textbook. Decide on which activities are suitable for M-MALL transfer. Explain your reasons.

Textbook Activity 1*

Textbook Activity 2



Textbook Activity 3*

Read the following statements related to using the Internet and social media and discuss to find out the problems.

1. A friend of mine tagged me in a picture without permission.
2. While I was reading comments on a forum page, I saw some offensive and foul language.

netiquette noun net·i·quette \ ˈne-ti-kət , -ˌket \

rules about the proper and polite way to communicate with other people when you are using the Internet.

Textbook Activity 4

Practise pronunciation by reading the following tongue twisters. Read each tongue twister slowly at first, then try reading it faster.

Which is worse verse – Wendy's verse or Wayne's verse?

Woolen vests for wailing wolves are worn in the vast woodlands.

Victor's friend Vincent rinsed his vests in vinegar.

Group 2: Visual Sketching and Note-taking Tools

This group of M-MALL mobile applications can be used to develop writing skills in a collaborative and multimodal way. As common features, they all allow users to add multimedia to their writings to enhance comprehensibility for the reader. Teachers can use these applications to ask their students preapere posters or cards. Furthermore, paragraps that include steps or a process can be explained best with the audio-visuals in these tools.

Posteroid
It is a simple application which turns your photos and text into a nice graphic poster. The posters made by users can be easily shared in the social networks. User can design the posters with colors, background images, texts, pre-defined filters, fonts and other graphical elements.

MetaMoji Note
It is a mixed platform enabling note taking, sketching and interacting with the whiteboard. Users can take notes or To Do lists, or import files in PDF format. Also, users can change colors, add visuals, links or icons to their texts.

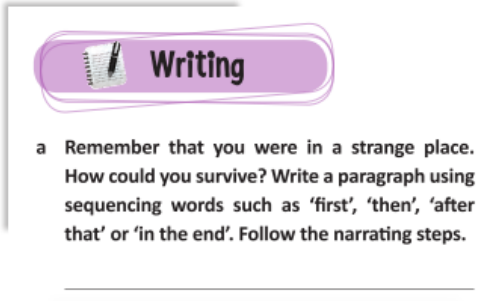
Canva
It is an all-in-one graphic design application that allows users to produce eye-catching graphics without any design skills or complex software. It allows users to upload pictures or select from pre-defined ones, change fonts or alignment. Users can share their posters in social network sites.

Instruction: Read the activities taken from a high school textbook. Decide on which activities are suitable for M-MALL transfer. Explain your reasons.

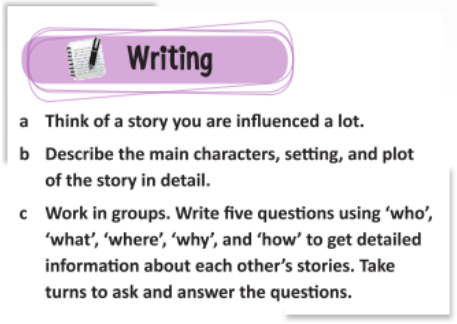
Textbook Activity 1*

Textbook Activity 2

Textbook Activity 3*



Textbook Activity 4



Group 3: Mind-mapping Tools

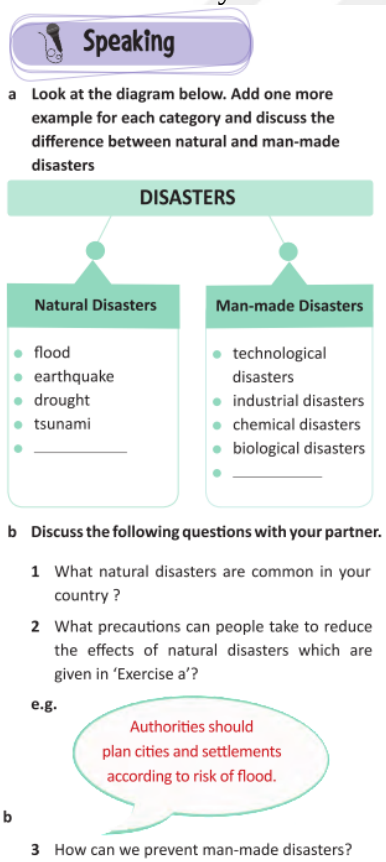
These M-MALL mobile applications help their users to preapare multimodal mind maps in a collaborative way. Furthermore, these multimodal mind-map applications allow users to add links, pictures, videos or long texts apart from just phrases or senteces written on the branches. Teachers can use these tools as warm-up or follow-up activities for all language skills.

MindMeister
It is an online mind mapping tool that lets you capture, develop and share ideas visually either alone or collaboratively with others. Users can add texts, icons, links and pictures to the mind map.

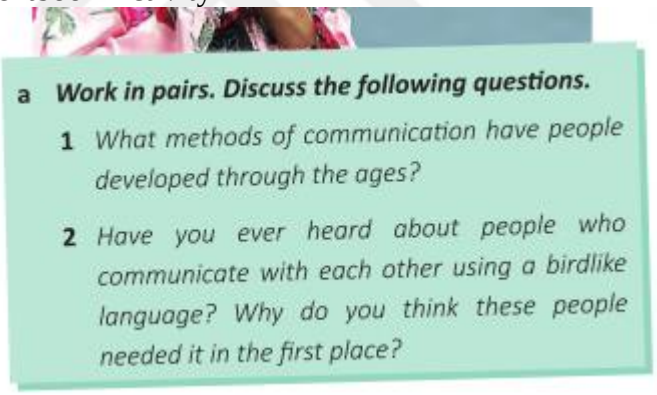
Mindomo
It is an online collaborative mind mapping, concept mapping and outlining software for visualizing and organizing information. One can easily collaborate with others by sharing ideas and working together on mind maps in real time. Like MindMeister, users can add texts, icons, links, videos and pictures to the mind map.

TASK: Read the activities taken from a high school textbook. Decide on which activities are suitable for M-MALL transfer. Explain your reasons.

Textbook Activity 1*



Textbook Activity 2



Textbook Activity 3*

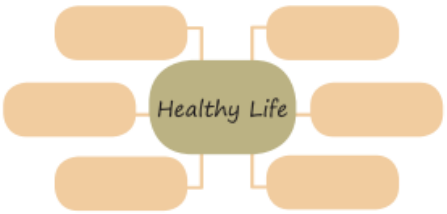
Project

Search the Net and find out the actual and potential uses of 3D printings in various fields (in the field of medicine, education, manufacturing, etc.). You may support your research by using visuals. Present your project to your classmates.

Textbook Activity 4

Writing

a Make a list of the elements of healthy life. Just write words or phrases in the mind map below.



b Write a topic sentence, making use of the elements you have written above.

_____

_____

_____

c After writing your topic sentence, follow the steps below to write an essay.

1. Write an introduction paragraph in five sentences including your topic sentence.
2. Form the body of your essay in which the topic is explained and described. First, write an opening sentence and then, give a few details about the topic in at least ten sentences.
3. Write a conclusion paragraph with five sentences. Don't forget that one of them must be a final sentence that sums up your ideas.

d After you have finished writing the essay, swap your papers with your partner. Check it using the rubric given to you by your teacher.

Group 4: Interactive Smartboard Tools

These M-MALL mobile applications are designed as interactive smartboards and can be used with or without smartboards in the classroom. These applications are highly interactive and trigger collaboration in the classroom. They can be used with reading and writing skills mainly. Other skills can be embbedded to the activities designed in these platforms.

Thinglink
It is an interactive media platform that allows students to use multimedia content and links to share their knowledge and tell their story by tagging images or videos with hotspots that include additional information. This includes photos, videos, maps, pictures, and drawings. Completed projects can be collected into channels and then shared with colleagues or students. They can also be shared via social media, a link, or embedded into blogs or websites.

Padlet
Padlet is like paper for your screen. The users can upload a video, record an interview, snap a selfie, write their own text posts or upload some documents collaboratively. As other users add to it, the page will update in real time. QR reader can be used to access a shared padlet. Also, a padlet can be shared across social platforms like Facebook, Twitter, Pinterest, and LinkedIn.

Stormboard
It is an easy-to-use online meeting, brainstorming, and collaboration platform. Users collaboratively share sticky notes generate, organize, and prioritize ideas and then create a plan to turn them into action. Users can add text, pictures, audio records to the platform.

Explain Everything
It is an interactive whiteboard platform where users collaborate, share, and learn without boundaries. Users can collaboratively create visual stories by starting with an infinite canvas and combining new and existing media, annotations, and text.

TASK: Read the activities taken from a high school textbook. Decide on which activities are suitable for M-MALL transfer. Explain your reasons.

Textbook Activity 1

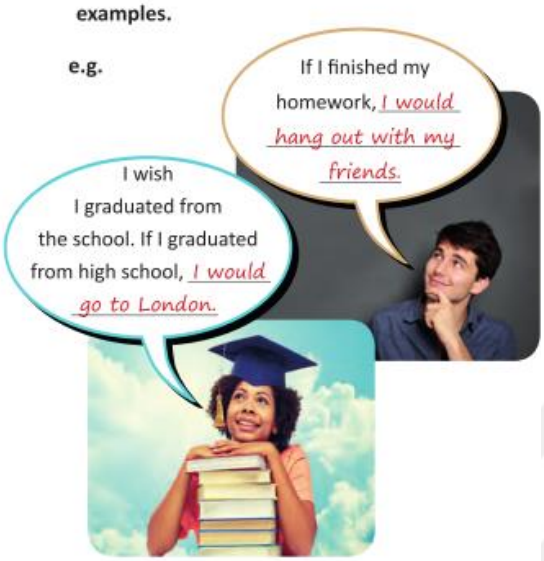
Textbook Activity 2*

Textbook Activity 3

Speaking

a What would you do if you were in the following situations. Complete the sentences as in the examples.

e.g.



1 If I could speak English perfectly, _____

_____

2 If I became the President, _____

_____

3 If I travelled to anywhere in the world, _____

_____

4 If it weren't raining/snowing/cold/hot, _____

_____

5 If I were at the university, _____

_____

Textbook Activity 4*

Lead in

Discuss the following questions with your partner.

1 *Which of the photos represent the world where you would like to live? Why?*

2 *Do you think people are respectful enough of the nature? Why/Why not?*

Group 5: Augmented Reality Tools

These applications require scanning barcodes or images in order to reach the link embedded. They provide augmented reality for their users and the links can include text, image, audio and videos. These M-MALL applications can be used for receptive language skills as users can browse the links proveded by the embedded barcodes and retreive necessary information either by listening, watching or reading. Moreover, students can also create augmented reality barcodes by using these tools and enhance their productive language skills as well.

QR Codes

QR stands for Quick Response. It's basically a quick, scannable barcode-like image that takes you to a specific digital destination. QR codes can send the user to a link in which there is a video, a visual, an audio record or a text. They can be used in the class to guide students in their online search and help them get the necessary information they need.

HP Reveal/Aurasma

It is an application that creates augmented reality for users. People can use this application to communicate a variety of different digital contexts that are attached to a number of physical environments. Augmented reality is a live direct or indirect view of a physical, real-world environment, such as everyday objects, images and places, whose elements are augmented or supplemented by computer-generated sensory inputs. AR provides an interactive opportunity that engages the viewer with a new vision or experience through graphics, animations, video, audio or three-dimensional content.

TASK: Read the activities taken from a high school textbook. Decide on which activities are suitable for M-MALL transfer. Explain your reasons.

Textbook Activity 1

Textbook Activity 2*

Search the Net and find out three quotes on universal values or ethics. Share them in the classroom. Puzzle out the core values of each quote with your classmates.

Textbook Activity 3

C. Read the text and answer the questions.

There is a Turkish saying which goes "There is no rose without a thorn" to emphasize that sometimes you have to take the bitter with the sweet. This is the same for the cyber world.

While enjoying the conveniences and advantages of cyber tools, you may be under serious threats. Since criminals have been where humans are, cyber world, in other words, the virtual world has turned out to be a new world for crimes. Just like the criminals in everyday life, cyber world has created its own criminals who are called hackers, cyber criminals and cybercrooks. Their culprits are sophisticated malware (malicious+ware), which are software designed to stop a computer's normal functioning.

Some of the popular cyber crimes are phishing, identity theft, online harassment and invasion of privacy. There are phishing websites which can mimic a legitimate website. The computer user is not suspicious of anything and if s/he has entered bits of personal information such as home address, citizenship number, social security number or banking passwords, it is far too late. A phisher's already gotten them. Thanks to a phishing filter, you can eliminate it.

Identity theft is another major crime. They may go hand in hand with phishing as it contributes to it. Identity theft scams may come in the form of a spam e-mail, website or even an online pop-up survey. Cybercrooks who may have gained access to your credit card or banking account information may do shopping in your name and you may suddenly face a huge credit card dept. Monitor your accounts frequently and in case of a suspicious activity, report it to authorities at once.

If one receives threats via e-mail, instant message or a social network message, they are exposed to online harassment. Cyber bullying is also part of this. If you notice something out of the ordinary, report it immediately before it gets out of hand.

Invasion of privacy is also a very serious threat. This includes hacking into someone's computer, reading their e-mails or monitoring online activities. Be careful with the people you are sharing your moments with. Today's sweet memories may be tomorrow's threats.

The good thing about the above cases is that they are all preventable by taking the steps timely and downloading or buying anti-spyware or anti-virus programs. Like in any specific crime in everyday life, you can contact the police and file a report. There are units to pursue these cases. You have rights and use them when necessary.

1. What is a malware?

   _____

2. How can a phisher access the victim's personal information?

   _____

3. Why should you be suspicious of a spam e-mail?

   _____

4. What kind of a crime is anyone who is threatening you via a social network message committing?

   _____

5. What should you do in case of noticing a cyber crime?

   _____

Textbook Activity 4*

A. Below are some articles of the Universal Declaration of Human Rights and statements of some human rights' abuses victims. Which article do you think is related to each of the statements? Write the article number beside each statement. More than one option is possible.

1. **We Are All Born Free & Equal.** We are all born free. We all have our own thoughts and ideas. We should all be treated in the same way.
2. **Don't Discriminate.** These rights belong to everybody, whatever our differences.
3. **The Right to Life.** We all have the right to life, and to live in freedom and safety.
4. **No Slavery.** Nobody has any right to make us a slave. We cannot make anyone our slave.
5. **No Torture.** Nobody has any right to hurt us or to torture us.
6. **We're All Equal Before the Law.** The law is the same for everyone. It must treat us all fairly.
7. **Your Human Rights Are Protected by Law.** We can all ask for the law to help us when we are not treated fairly.
8. **We're Always Innocent Till Proven Guilty.** Nobody should be blamed for doing something until it is proven. When people say we did a bad thing we have the right to show it is not true.
9. **The Right to Seek a Safe Place to Live.** If we are frightened of being badly treated in our own country, we all have the right to run away to another country to be safe.
10. **Marriage and Family.** Every grown-up has the right to marry and have a family if they want to. Men and women have the same rights when they are married and when they are separated.
11. **Freedom of Thought.** We all have the right to believe in what we want to believe, to have a religion, or to change it if we want.
12. **Freedom of Expression.** We all have the right to make up our own minds, to think what we like, to say what we think, and to share our ideas with other people.
13. **The Right to Public Assembly.** We all have the right to meet our friends and to work together in peace to defend our rights. Nobody can make us join a group if we don't want to.
14. **Workers' Rights.** Every grown-up has the right to do a job, to a fair wage for their work, and to join a trade union.
15. **The Right to Play.** We all have the right to rest from work and to relax.
16. **Food and Shelter for All.** We all have the right to a good life. Mothers and children, people who are old, unemployed or disabled, and all people have the right to be cared for.
17. **Copyright.** Copyright is a special law that protects one's own artistic creations and writings; others cannot make copies without permission. We all have the right to our own way of life and to enjoy the good things that art, science and learning bring.
18. **A Fair and Free World.** There must be proper order so we can all enjoy rights and freedoms in our own country and all over the world.
19. **No One Can Take Away Your Human Rights.**

Group 6: Online Classroom Tools

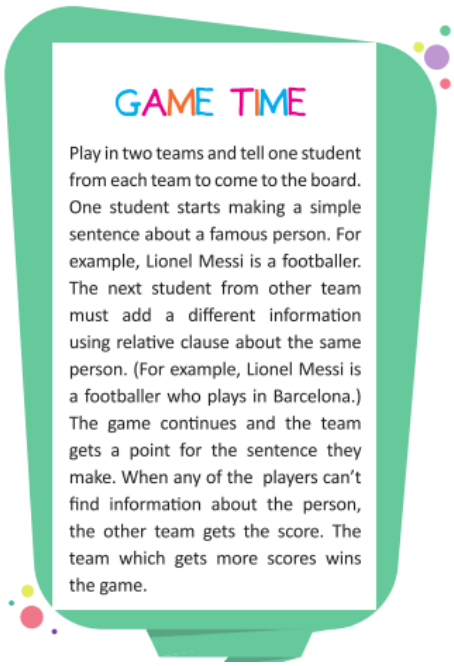
This group of M-MALL applications provide teachers to constitute online classroom environments in which teacher can assign tasks to the whole class at the same time and give individual feedback. While Edpuzzle is used for especially listening skill, Edmodo can foster all four skills by enabling its users to comment on each others responses and varios tasks assigned by the teacher.

Edpuzzle
It provides an easy and effective way to deliver videos in the classroom. Students are not passive during listening with Edpuzzle. Students can download the app and opt-in to receive video-assignments directly with questions, so they can check their understanding through the video.

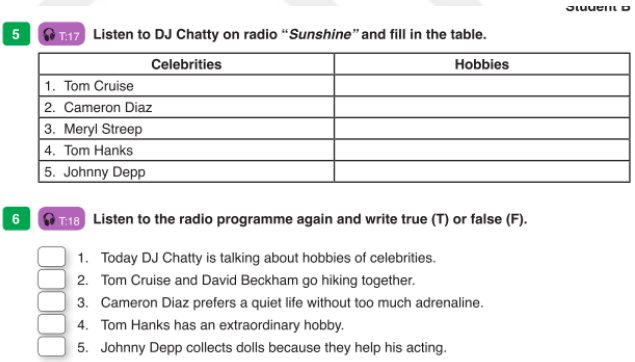
Edmodo
It is a web-based system that provides content sharing, real-time feedback, communication tools, classroom management for education industry. A teacher can reach every student in the class with this application. Students can login and participate from any phone, tablet or computer, and can check assignments. Teachers can facilitate discussions within a single class group or browse topics for resources related to their subject.

TASK: Read the activities taken from a high school textbook. Decide on which activities are suitable for M-MALL transfer. Explain your reasons.

Textbook Activity 1*



Textbook Activity 2



5 T:17 **Listen to DJ Chatty on radio "*Sunshine*" and fill in the table.**

Celebrities	Hobbies
1. Tom Cruise	
2. Cameron Diaz	
3. Meryl Streep	
4. Tom Hanks	
5. Johnny Depp	

6 T:18 **Listen to the radio programme again and write true (T) or false (F).**

1. Today DJ Chatty is talking about hobbies of celebrities.
2. Tom Cruise and David Beckham go hiking together.
3. Cameron Diaz prefers a quiet life without too much adrenaline.
4. Tom Hanks has an extraordinary hobby.
5. Johnny Depp collects dolls because they help his acting.

Textbook Activity 4*

READING & WRITING

1 **Read the quotes below. Which one is your favourite? How do you say it in your own language?**

"If you want to go big, stop thinking small."

"Sometimes you win, sometimes you learn."

"Winners never quit and quitters never win."

"Success doesn't come to you, you go to it."

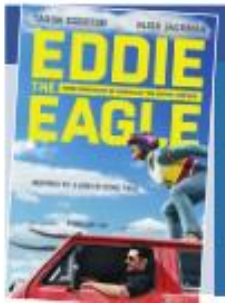
"If you dream it, you can do it."

2 **Look at the words in bold and choose the correct meanings.**

1. He wants to **take up** photography and travel around the world.
   a) start b) finish
2. My **ambition** is to be a race car driver.
   a) fear b) goal
3. On a rainy day if you don't have an umbrella, it is a **misfortune**.
   a) bad luck b) advantage
4. She decides to **give up** working long hours and spend more time with her family.
   a) stop b) fight
5. Hannah **trains** hard to become a famous violinist.
   a) teaches b) practises
6. The villagers share the responsibilities to be **fair**.
   a) different b) equal

3 **Read the text and choose why Coach Peary decides to help Eddie.**

a. to join the Olympic Games. b. to be fair.



Do you ever take up a hobby just because you see it in a movie

Sometimes you just go to the cinema to watch a movie but you get out of **it** with a new hobby. Some people start cooking after watching 'Julie & Julia' and some start playing the drums with the film 'Whiplash'. Some even try ski jumping. It is a little bit challenging, but when you watch 'Eddie the Eagle', you can change your mind. The movie is full of fascinating snow scenes and exciting ski jumps. It is the true story of Eddie Edwards. It is a comedy-drama. The stars are Taron Egerton (Eddie) and Hugh Jackman (the coach). Eddie is a teenager. His ambition is to join the Olympic Games. *He tries his hand at* different Olympic events and decides on ski jumping.

4 **Read the text again and tick (✓) yes or no.**

	Yes	No
1. You can take up cooking when you watch 'Julie & Julia'.	○	○
2. It is a good idea for sports lovers to watch 'Whiplash'.	○	○
3. 'Eddie the Eagle' has many beautiful scenes by the sea.	○	○
4. Eddie is good at ski jumping from the start.	○	○
5. Coach Peary helps Eddie to reach his goal.	○	○
6. Eddie is an ambitious person and he never gives up.	○	○

5 **Read the text again and choose the correct option.**

1. What's the main idea of the text?
   a) Going to the movies is a popular hobby for people of all ages.
   b) After watching some movies, you can take up a hobby.
2. The message in 'Eddie the Eagle' is ...
   a) "Never give up your dreams because nothing is impossible."
   b) "If it is too hard for you, let it go."
3. In line 2, "it" refers to ...
   a) the cinema
   b) a hobby
4. What is Eddie's dream?
   a) To travel to different countries
   b) To take part in Olympic events
5. *He tries his hand at* means ...
   a) he gets help from other people.
   b) he starts doing something new or different.
6. *He wants to reach for the moon* means ...
   a) he has very high goals.
   b) his ambition is to walk on the moon.

He has many misfortunes during his jumps. Most people say *he wants to reach the moon* but he tries hard and never gives up. Skiing becomes his life. He travels to Germany to learn more about the sport. Luckily, he meets Coach Peary there. Coach Peary sees his unsuccessful jumps and doesn't want to help him at first. He tells Eddie to give up. Then, he thinks this is not fair and agrees to train him. With the help of the coach, Eddie's dream comes true. At the end of the movie, Eddie shows the world 'If you dream it, you can do it.'

Textbook Activity 3:

2 T:21 **Listen to a quiz show on TV. Maggie and Albert are answering questions about tribal people. Tick (✓) the names of the tribes you hear.**

◯ The Cherokee	◯ The Masai	◯ The Apaches	◯ The Maori
◯ The Aborigines	◯ The Huli	◯ The Sioux	◯ The Sentinelese

3 T:22 **Listen to the quiz show again and circle the correct option.**

1. Huli people (***always / sometimes***) paint their faces in yellow.
2. They wash the boys' hair with herbal water (***everyday / once a week***).
3. The Maori (***usually / often***) play musical instruments and dance around the fire.
4. They (***usually / always***) swim, dive and go canoeing in the ocean.
5. The Sioux (***sometimes / always***) ride horses and hunt buffaloes.
6. They (***never / rarely***) have hot water or electricity in their houses.

Group 7: Quiz Tools

This group of M-MALL mobile applications are not directly used for single skill but enable teachers to prepare online tests. If prepared in a multimodal sense such as using various sources like videos, images or audios in the question root, these applications can be used for comprehension checks for receptive skills.

Kahoot

It is a tool for used for administering quizzes, discussions or surveys. It is a game based classroom response system played by the whole class in real time. Multiple-choice questions are projected on the screen. Students answer the questions with their smartphone, tablet or computer.

Cram

It is an online platform that allows teachers to prepare online flashcards. There are two modes: card mode to view the flashcards and memorize mode to practice flashcards. This application also offers users two games with the flashcards they prepared. Jewels of Wisdom is the most preferred game in the classes, in which students match flashcards.

Plickers

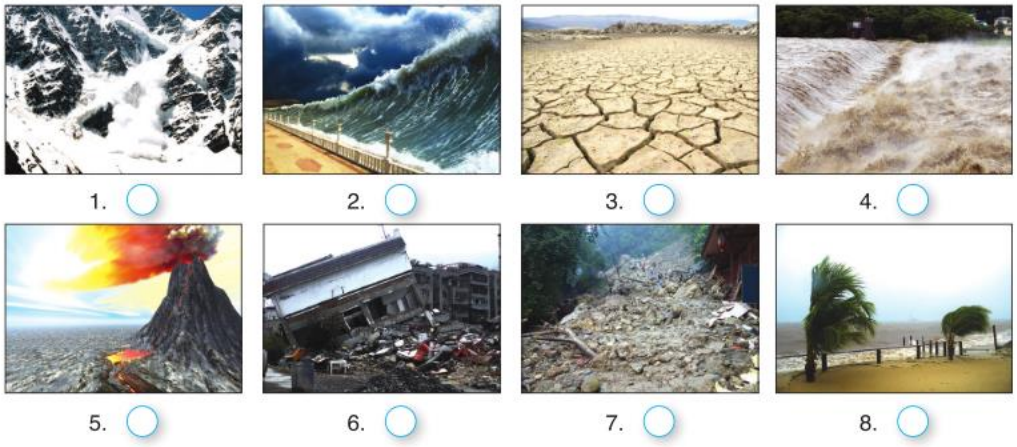
This application allows teachers to administer online quizzes in the class without the need for student devices. Each student is given a card (a "paper clicker"), and the teacher uses his/her Android smartphone or tablet to scan them to do instant checks-for-understanding. The data is automatically saved, student-by-student, at plickers.com.

TASK: Read the activities taken from a high school textbook. Decide on which activities are suitable for M-MALL transfer. Explain your reasons.

Textbook Activity 1

1 **Match the pictures with the natural disasters.**

a. volcanic eruption
b. earthquake
c. tsunami
d. avalanche
e. drought
f. landslide
g. flood
h. hurricane



1. ◯ 2. ◯ 3. ◯ 4. ◯

5. ◯ 6. ◯ 7. ◯ 8. ◯

Textbook Activity 2*

1 **Read the lists of the necessary equipment for the hobbies below. Circle the odd words out in each.**

KNITTING	RAFTING	CAR TATTOOING	ARCHERY	POTTERY
				
ropes patterns wool needles	life-jacket binoculars raft paddles	plaster tattooing machine transfer paper paint tubes	arrows chest guard bows mask	kiln skis clay ribbon cutter

Textbook Activity 3*

1 **Read the statements and match them with the hobbies.**


a. writing poems


b. scuba diving


c. photography


d. cooking


e. motor racing

1. I feel like a part of the undersea world. I enjoy watching the life there.
2. It is just catching a moment of life. I'm crazy about it.
3. It is a real thrill to go around the track at 250 km / h. It takes my breath away.
4. I use words to show my feelings. If I'm in the mood, I can create my masterpiece.
5. It's not just mixing the ingredients. It's much more than that.

Textbook Activity 4

e Put the words in the correct column. Then, listen and check your answers. *Track 49*

• gain • fight • die • prey • buy

• say • great • inside • dry • ~~bite~~

• name • right • weight

/eɪ/	/aɪ/
	bite

Modelling

Mental modelling is a teaching technique in which the learners are informed about the reasoning processes that lie behind preparing a M-MALL lesson plan. The aim here is to show 'novice' PSTs how to select an appropriate textbook activity to transfer into M-MALL, how to select a suitable M-MALL mobile application and how to write activities with M-MALL in a lesson plan by thinking aloud and negotiating for meaning through this process. Therefore, the PST can get a glimpse into the mind of the instructor and can imitate the process. Although, modelling generally refers to a staging of a physical act, mental modelling refers to an act which is invisible. The intention of the instructor is made explicit to the PSTs through modelling the mental process and consequently the process is less likely to be misinterpreted by the PSTs.

In this mental modelling technique, the instructor asks questions to PSTs and involves them to this modelling process. Process of mental modelling for M-MALL lesson plan preparation includes the following stages:

1. Reviewing a high school textbook, thinking aloud and asking PSTs opinions while selecting an appropriate activity which can be transferred into M-MALL
2. Thinking aloud and negotiating with PSTs on which M-MALL mobile application to be selected for the chosen activity
3. Asking questions to PSTs on how and where (warm-up, main, follow up) to integrate the selected M-MALL mobile application and thinking aloud while identifying the stage that M-MALL is going to be used
4. Negotiating and identifying the aims, learning outcomes, anticipated problems and possible solutions of the selected M-MALL application for teaching

At the end of these stages, the instructor will ask PSTs to write a Reflection on each mental modelling process by answering the following guidance questions:

1. How did the instructor identified the textbook activity which can be transferred to an M-MALL activity?
2. How did the instructor choose an appropriate M-MALL mobile application for the selected activity?

3. How did the instructor identified how and where (warm-up, main, follow up) to integrate the selected M-MALL mobile application?
4. How did the instructor identify the aims, learning outcomes, anticipated problems and possible solutions?

The lesson plans to be modelled in the training process are given below. A lesson plan with M-MALL is prepared for each language skill by selecting an appropriate high school textbook activity.

Lesson Plan -1

Student Teachers	Gülin ZEYBEK
Classroom Teacher	Gülin ZEYBEK
Size of the class	16
Level / Learning stage	9th grade/B1
Age of the students	15
Estimated time	40 minutes
Date	-
Materials	M-MALL Mobile Application, smartboard/projector, a listening activity from 9th grade textbook (Progress, page 144).
Selected M-MALL mobile application	Edpuzzle: It provides an easy and effective way to deliver videos in the classroom. Students are not passive during listening with Edpuzzle. Students can download the app and opt-in to receive video-assignments directly with questions, so they can check their understanding through the video.
Aims of using the selected M-MALL mobile application	- provide sts with a range of different mode to use in order to answer the comprehension questions related to the listening activity. - motivate sts by letting them use their mobile phones during the class, - provide sts chances to give immediate responsed right after the topic. - provide sts to answer questions prompted by different modes such as pictures and videos, - save time.
Learning Outcomes	The students will be able to; - practice and enhance their listening comprehension abilities, - enhance their abilities of stating their own ideas/opinions through various modes.

Anticipated Problems	Possible Solutions
- Some students may not be able to join Edpuzzle class. - There may be a problem with internet connection. - Students may be reluctant to use their mobile phones in the class. - Some students may not have any smartphones	- Teacher may walk around and help them join the online class. - Teacher can share her own internet with students. - Teacher will encourage by showing them how enjoyable the lesson will be with their participation. - Teacher form pairs or group for these students to join the activities.

	Teacher	Student	Inter.	Comments
Warm-up Activity (10 minutes)	- T asks the following questions: * What is the strangest festival that takes place in your country? * Do you know any other festivals held in other countries?	- Sts answer the questions.	T→S S→T	***The aims of this warm-up activity, in general, are to:*** - get sts attention, - arouse curiosity, - activate sts' schemata, - prepare sts to the listening activity.
Main Activity (25 minutes)	- T asks sts to opne Edpuzzle app on their mobile phones, which they are expected to download before the class. - T shares the class code on Edpuzzle and makes sure that everybody is connected to Edpuzzle. - T tells sts that * they are going to listen to a record about unusual festivals held all over the world. * while they are listening to the record, it will stop occasionally and a question will pop up. They are required to answer the question(s) to continue. * they can see their scores at the end of the listening activity. * for their personal answers she will give feedback after the lesson. - T also projects the answers on the board so that everyone can see the answers.	- Sts open Edpuzzle on their mobile phones and give answers to the questions while listening to the recording.	T→S T→S S→T T→S S→T	***The aims of this main activity are to:*** - introduce sts various festivals all around the world. - Practice sts English listening comprehension skill. ***The aims of using Edpuzzle in this activity are to:*** - provide sts with a range of different mode to use in order to answer the comprehension questions related to the listening activity. - motivate sts by letting them use their mobile phones during the class, - provide sts chances to give immediate responsed right after the topic. - provide sts to answer questions prompted by different modes such as pictures and videos, - save time.

Follow-up Activity (10 minutes)	- T asks sts to work in groups of four and choose a festival that they have just listened to. - T asks groups to prepare a role-play to be acted in front of the class. - T also highlights that groups should not tell other groups which festival they are going to act out so that others can guess at the end of each performance.	- Sts work in groups of four and choose a festival. - Sts prepare role-plays as groups and act out in front of the class. Other sts guess which festival is being acted out.	T→S S→T T→S S→S S→T	***The aims of this follow-up activity are to:*** - enhance motivation, creativity and collaboration, - provide sts opportunities to be active in the classroom, - let sts revise the newly learned information in an enjoyable way.

The original activity in the textbook:

Listening

a **Discuss the following questions.**

1 What is the strangest festival that takes place in your country?
2 Do you know any unusual festivals that are held in other countries? If yes, what are they?

b **Listen to the audios carefully. Match the texts you hear to the photos below and write the number of the festivals in the boxes.** *Track 50*


a
Festival # ☐


b
Festival # ☐


c
Festival # ☐


d
Festival # ☐


e
© Drew Leavy/Flickr
Festival # ☐


f
Festival # ☐

c **Listen to the audios again and take brief notes on festivals.**

Doll Festival

_____
_____

Floating Lanterns Festival

_____
_____

FESTIMA

_____
_____

The Monkey Buffet Festival

_____
_____

The Cooper's Hill Cheese-Rolling Festival

_____
_____

Night of the Radishes

_____
_____

d **Think about the festivals you have listened. Choose one of them that you would like to visit. Then, work in groups. Talk with your group members about the festival you want to attend most. Ask for and give reasons for one another's choices. You can make use of the notes you have taken and the expressions given below.**

- *What are your reasons for _____?*
- *Why do you _____?*
- *What makes you think that _____?*
- *What is your purpose of _____?*

- *_____ that's why I _____.*
- *I want to _____ because _____*
- *The reason for my _____ is _____*
- *Due to _____, I would like to _____.*

Lesson Plan - 2

Student Teachers	Gülin ZEYBEK
Classroom Teacher	Gülin ZEYBEK
Size of the class	16
Level / Learning stage	10th grade/B1
Age of the students	16
Estimated time	40 minutes
Date	-
Materials	M-MALL Mobile Application, smartboard/projector, a listening activity from 10th grade textbook (Count me in, page 69).
Selected M-MALL mobile application	***Mindomo:*** It is an online collaborative mind mapping, concept mapping and outlining software for visualizing and organizing information. One can easily collaborate with others by sharing ideas and working together on mind maps in real time. Users can add texts, icons, links, videos and pictures to the mind map.
Aims of using the selected M-MALL mobile application	- provide students with a range of different mode to use in order to revise the newly learned information and vocabulary. - motivate students by letting them use their mobile phones during the class, - getting them enjoy the activity by offering them a different way of gathering and using information, - enhance students 'brainstorming skills; - enhance students' skills on organizing their knowledge. - improve their collaboration skills, - save time, - motivate students.
Learning Outcomes	The students will be able to; - practice and enhance their brainstorming skills, - enhance their abilities of stating their own ideas/opinions through various modes.

Anticipated Problems	Possible Solutions
- Some students may not be able to join Mindomo mind map. - There may be a problem with internet connection. - Students may be reluctant to use their mobile phones in the class. - Some students may not have any smartphones	- Teacher may walk around and help them join the mind map. - Teacher can share her own internet with students. - Teacher will encourage by showing them how enjoyable the lesson will be with their participation. - Teacher form pairs or group for these students to join the activities.

	Teacher	Student	Inter.	Comments
Warm-up Activity (10 minutes)	- T asks sts the following questions: * What do you usually do in your holidays? * Do you go different places? * Where do you go? * What type of holidays do you like?	- Sts answer the questions.	T→S S→T	***The aims of this warm-up activity, in general, are to:*** - get sts attention, - arouse curiosity, - activate sts' schemata, - prepare sts to the reading activity.

ain Activity (25 minutes)	- T asks sts to read the text titled "Brand New Tyes of Vacation" from their book on page 69.	- Sts read the text.	T→S	***The aims of this main activity are to:*** - Introduce sts with the new vocabulary related to holidays. - Practice sts English reading comprehension skill. ***The aims of using Mindomo in this activity are to:*** - provide sts with a range of different mode to use in order to revise the newly learned information and vocabulary. - motivate sts by letting them use their mobile phones during the class, - getting them enjoy the activity by offering them a different way of gathering and using information, - enhance sts' brainstorming skills; - enhance sts' skills on organizing their knowledge. - improve their collaboration skills, - save time, - motivate sts.
	- After sts finish reading, T asks several questions about the text and the new vocabulary to check comprehension. These questions are: *What do the following terms mean? (Facility based vacations, activity based vacations, outdoor based vacations and combined vacations) *What type of vacations Glamping, Trekking & Hiking Vacations, All-Inclusive Hotels, Cruise Vacations and Sports Tours are?	- sts answer the questions. - Sts open the app on their mobile phones.	T→S S→T T→S	
	- After the question-answer part, T asks students to open Mindomo app on their mobile phones, which they have downloaded before the lesson.	- Sts listen to their teacher and try to understand how the app works and connect their T's project.	T→S S→S S→T	
	- T gives information on how to use the app and shares her blank collaborative mind map project with sts.	- Sts start to add sub-branches and sub-topics to the mind map.	T→S S→S S→T	
	- T writes the main topic "Holiday Types" and asks sts to build up the mind map using the information they have learned from the text they read.	- Sts search the internet and find related pictures, videos, texts and add them to the mind map.	T→S S→S S→T	
	- T highlights the multimodal features of the application such as being able to add pictures, videos, texts, etc. and asks sts to enrich the mind map using these features.	- Sts also search for other holiday types and add them to the mind map too.	T→S S→S S→T	
	- T also states that sts can add other holiday types other than the ones stated in the text by searching the internet.	- Sts and their teacher discuss the correctness of their mind map and give feedback to each other.	T→S S→S S→T	
	- After class finishes their mind map project, T and sts have a classroom discussion on the mind map of holiday types that sts have prepared. Sts and T give feedback to the mind map.			

Follow-up Activity (10 minutes)	- T asks sts to open the app Canva which they are supposed to download it before too. - T tells stst that they are going to prepare a poseter using this mobile app for their own holiday facility. T shows an example Poster to the sts and also shows how to use Canva. - After sts finish preparing their posters, T asks sts to share their posters on their class WhatsApp group. - T asks sts to choose the best poster.	- Sts open the app. - Sts listen to the instructions and explanations of their teacher and prepare their own posters. - Sts share their posters on their WhatsApp group. - Sts choose the best poster.	T→S S→T T→S S→S T→S S→S S→T T→S S→S S→T	***The aims of this follow-up activity are to:*** - enhance sts imagination and creativity, - check sts comprehension of the paragraphs, - get sts have fun - motivate sts. ***The aims of using Canva are to:*** - provide sts a wide range of opportunities that a pen and a paper cannot provide during the class time to prepare a poster, - enable sts to share their products instantly with their friends.

The original activity in the textbook:

7 C

Read the text again and list the types of vacations in the chart. More than one option is possible.

Brand New Types of Vacation

Changing lifestyles of the 21st century are changing people's understanding of a holiday. People used to dream of days with a lot of sleep and no activity. Therefore, they used to laze around all day at a warm, sunny holiday center. However, that's not the expectation now. As most people live an immobile lifestyle, sitting in their offices as part of today's urban life, they look forward to more things such as the sun, nice weather, culture, nature, activity, etc..." says Dr. Thomas Dixon of New York. As a result, there is more variety in today's tourism. Here are some types of vacations for today's vacationers.

Glamping: If you think traditional camping is exhausting, there is a new form of it. It is also called luxury camping and it even has all- inclusive forms as the word itself is a blending of *glamour* and *camping*. This new form of camping makes it possible to enjoy nature and outdoor activities in tents with 5- star comfort. You don't have to cook but you may choose to cook for yourself.

Trekking&Hiking Vacations: If you like traveling on foot when you want to explore a place, this is for you. However, no one cooks for you. Professional teams help you make it happen. You can choose your destinations. Note that this is not for comfort-seekers.

All-Inclusive Hotels: Trends may change but for families with small kids and for comfort- seekers, this type of vacation has never lost its popularity. Swim, eat, sleep and have fun. Early reservations can get you discounts.

Cruise Vacations: If you are a sea- lover, this is for you. You can enjoy the smell of sea as much as possible while enjoying the traditional comfort and service of cruise ships. You may have to move around to explore various spots close to harbors in a limited amount of time.

Sports Tours: Tiredness from going somewhere to watch a match at a stadium and traveling back in a rush is a thing of the past. Travel agencies combine city tours and cultural tours with sports events services for fans and add to the joy. Obviously, you need more time to participate in such an activity.

Facility based vacations	
Activity based vacations	
Outdoor vacations	
Combined vacations	

Lesson Plan - 3

Student Teachers	Gülin ZEYBEK
Classroom Teacher	Gülin ZEYBEK
Size of the class	16
Level / Learning stage	9th grade/B1
Age of the students	15
Estimated time	40 minutes
Date	-
Materials	M-MALL Mobile Application, smartboard/projector, a listening activity from 9th grade textbook (Progress, page 86).
Selected M-MALL mobile application	***Flipgrid:*** It is a video discussion platform that allows users to share their own videos especially their own recordings on a topic assigned. Teachers spark discussion by posting topics and questions to a class, school, professional learning community, or the world. Students record, upload, view, react, and respond to each other's short videos.
Aims of using the selected M-MALL mobile application	- motivate sts by letting them use their mobile phones during the class, - give sts an opportunity to share their videos with their classmates on a private platform just for their class which enables them to comment on, leave an emoji or feedback from the teacher, - engage all of the students actively in the classroom.
Learning Outcomes	The students will be able to; - practice and enhance their speaking and listening skills,

Anticipated Problems	Possible Solutions
- Some students may not be able to join Flipgrid. - There may be a problem with internet connection. - Students may be reluctant to use their mobile phones in the class. - Some students may not have any smartphones	- Teacher may walk around and help them join the application. - Teacher can share her own internet with students. - Teacher will encourage by showing them how enjoyable the lesson will be with their participation. - Teacher form pairs or group for these students to join the activities.

	Teacher	Student	Inter.	Comments
Warm-up Activity (10 minutes)	- T show sts some examples of street interviews about healthy life to the class and asks the following questions: - How does the interviewer reach people? - How does he ask his questions? - How does the interviewee respond? - How is their communication? - What did people say about a healthy life?	- Sts answer the questions.	T→S S→T	***The aims of this warm-up activity, in general, are to:*** - get sts attention, - arouse curiosity, - activate sts' schemata, - prepare sts to the Speaking activity.
Main Activity (25 minutes)	- T divides sts into two groups: 6 interviewers and 10 interviewees. - T tells interviewees that they will pretend as random people walking along the street asks them to select an identity for themselves such as an old women, a young boy, a businessman, etc. - T also tells interviewers that they will have their own styles as interviewers. - T tells students that the interviewers will shoot the interviews and upload them using the app called Flipgrid. - T asks interviewers to open the Flipgrid app on their mobile phones and explains how to use Flipgrid. - T tells the interviewers that they will walk around the classroom as if they are walking along the street and ask interviewees "What are the things that can be done to stay healthy?" - After students complete their interviews and upload them on Flipgrid, T asks everyone to watch the interviews and leave a comment, which should also be done by speaking, recoding the video and uploading to Flipgrid.	- Sts choose their groups. - Sts listen to the instructions and record their interviews. The interviewers upload the videos on Flipgrid. - All of the students watch the videos and leave comments if they want to leave any.	T→S S→T T→S T→S T→S T→S S→S S→T T→S S→S S→T	***The aims of this main activity are to:*** - enhance sts English speaking skills, - trigger collaborative work, - practice drama skills with sts, ***The aims of using Flipgrid in this activity are to:*** - motivate sts by letting them use their mobile phones during the class, - give sts an opportunity to share their videos with their classmates on a private platform just for their class which enables them to comment on, leave an emoji or feedback from the teacher, - engage all of the students actively in the classroom.

Follow-up Activity (10 minutes)	- T asks sts to work in groups and watch the interviews on Flipgrid again. - T tells them that they are going to take notes while listening to the interviews and list the suggestions offered for a healthy life during the interviews. - T asks sts to use their lists and prepare charts (pie, bar, etc.) to explain the percentages of suggestions. For example, if 3 people said eating fruits is goof for a healthy life, then sts will calculate its percentage (30%) and write it on their charts. - T asks sts to use Simple Graph Maker app on their mobile phones. And briefly makes a chart to show how it works. - T asks groups to send their graphs to class WhatsApp group to share with their friends. At the same time T opens the charts on the board and asks groups to present their charts to their friends.	- Sts work in groups and watch the interviews again. - Sts list the suggestions made in the interviews. - Sts prepare their charts on Simple Graph Maker using their notes and send their charts to their WhatsApp group. - One student from each group comes to the board and explains their chart.	T→S S→T T→S S→S T→S S→S S→T T→S S→S S→T	***The aims of this follow-up activity are to:*** - foster sts analysis and synthesis abilities in the target language, - get sts work collaboratively, - check sts comprehension levels of the interviews. ***The aims of using Simple Graph Maker are to:*** - save time, - enable sts share their products instantly with their friends, - motivate sts with more colorful and varied charts available.

The original activity in the textbook:

5A HEALTH IS WEALTH

e According to the text on pages 85 and 86, prepare a list of dos and don'ts for yourself.

DOs

DON'Ts

KEEP IN MIND!

* We use the Present Perfect Tense for situations that started in the past and still continue.
  e.g. Mr Harrison **has been** the headmaster of our school since 2000.
* We use the Present Perfect Tense for completed actions at an indefinite time in the past.
  e.g. We **have** already **completed** our project.
* We use the Present Perfect Progressive Tense for actions that continue up till now, or just before now.
  e.g. I can write an essay in Chinese because I **have been learning** it for over three years.
* The Present Perfect Tense emphasises the result of an action while the Present Perfect Progressive Tense emphasises the time spent while doing an action.
  e.g. The students **have done** the exercise. *(They have completed it.)*
  The students **have been doing** the exercise. *(They started doing it, but they haven't completed it yet.)*

Speaking

a Look at the photos below. Have you ever done any of the following activities?


1


2


3


4

b Think of at least five things that can be done to stay healthy and make a list below.

e.g. *eat whole-grain foods*

1
2
3
4 _____
5 _____

c Work in groups. Ask and answer questions about the lists you have prepared as in the examples below.

e.g. Have you ever eaten whole-grain foods?

Yes, I have./No, I haven't.

How many times have you eaten whole grain foods?

I have eaten whole-grain foods **many/lots of/ several times/once in my lifetime.**
I have **never** eaten whole-grain foods.

How long have you been eating whole-grain foods?

I have been eating whole grain foods **for five months/since last year.**

Lesson Plan - 4

Student Teachers	Gülin ZEYBEK
Classroom Teacher	Gülin ZEYBEK
Size of the class	16
Level / Learning stage	11th grade/B1
Age of the students	17
Estimated time	40 minutes
Date	-
Materials	M-MALL Mobile Application, smartboard/projector, a listening activity from 11th grade textbook (Silverlining, page 36).
Selected M-MALL mobile application	***HP Reveal/Aurasma:*** It is an application that creates augmented reality for users. People can use this application to communicate a variety of different digital contexts that are attached to a number of physical environments. Augmented reality is a live direct or indirect view of a physical, real-world environment, such as everyday objects, images and places, whose elements are augmented or supplemented by computer-generated sensory inputs. AR provides an interactive opportunity that engages the viewer with a new vision or experience through graphics, animations, video, audio or three-dimensional content.
Aims of using the selected M-MALL mobile application	- provide students with a range of different mode to gain information about the topic, - motivate students by letting them use their mobile phones during the class, - getting them enjoy the activity by offering them a different way of gathering information, - arouse curiosity by getting students scan different pictures and waiting for what to see in the end.
Learning Outcomes	The students will be able to; - practice and enhance all four skills in English,

Anticipated Problems	**Possible Solutions**
- Some students may not be able to use HP Reveal Aurasma. - There may be a problem with internet connection. - Students may be reluctant to use their mobile phones in the class. - Some students may not have any smartphones	- Teacher may walk around and help them use the application. - Teacher can share her own internet with students. - Teacher will encourage by showing them how enjoyable the lesson will be with their participation. - Teacher form pairs or group for these students to join the activities.

	Teacher	Student	Inter.	Comments
Warm-up Activity (15 minutes)	- T asks sts to look under their desks and find the envelopes that she stuck there before the lesson. - T asks sts to open the envelops and form groups according to the cards they have. Each card has a picture at one site and a color on the other side. - T asks sts to form groups according to the colors they have. E.g. reds will be a group, blues another, etc. - T tells sts that they need to use the application called HP Reveal (Aurasma), which T assigns them to download the app before the lesson. T also explains how they can use the application. - T tells sts that each group has pictures related to a famous talented person and asks groups to look at their pictures on the cards. - T asks sts to scan their pictures using HP Reveal app and get information about those people. - T also highlights that they will see some videos, texts, audios, etc. after scanning the pictures. - T asks sts to gather as much information as they can and take down notes.	- Sts look under their desks and find the envelops. - Sts open the envelops and try to figure out their colors. - Sts form groups according to the colors they have. - Sts get ready and open HP reveal on the mobile phones. They listen to the explanations made by T. - Sts look at their cards and examine their pictures. - Sts scan pictures and come across various mode such as videos, texts, audios, etc. Sts watch the videos, read the texts and listen to the audio files. - Sts gather information about the famous talented person assigned to their group and take notes.	T→S T→S T→S T→S T→S T→S S→S T→S S→S	***The aims of this warm-up activity, in general, are to:*** - get sts attention, - arouse curiosity, - activate sts' schemata, - prepare sts to the writing activity. ***The aim of using HP Reveal mobile application is to:*** - provide sts with a range of different mode to gain information about the topic, - motivate sts by letting them use their mobile phones during the class, - getting them enjoy the activity by offering them a different way of gathering information, - arouse curiosity by getting sts scan different pictures and waiting for what to see in the end.

Main Activity (20 minutes)	- T asks sts to work with their same group members and tells them that they are going to write an informative paragraph on the famous talented person about whom they gathered information. - T tells sts that they are going to use the mobile application called MetaMoji Note, which sts are also asked to download before the lesson, and explains how the app works. - T asks sts to create a multimodal text with this app and after finishing their paragraphs send it to the class WhatsApp group. - After each group sends their paragraphs, T asks sts to read all of the paragraphs silently and choose the best one.	- Sts work with their same group members and prepare a multimodal text including an informative paragraph about the famous talented person they have taken notes. - Sts send their paragraphs to their WhatsApp group and choose the best paragraph.	T→S T→S S→S T→S S→S S→T	***The aims of this main activity are to:*** - help sts improve their writing abilities, - enhance their analysis and synthesis abilities, - improve their productive skills, - foster collaborative learning. ***The aims of using MetaMoji Note mobile application are to:*** - enable sts produce multimodal texts - enable sts to write informative paragraph in a more interesting and comprehensible way, - provide sts to have an end product which can be shared instantly with all of their friends in the class, - enhance sts creativity.
Follow-up Activity (10 minutes)	- T tells sts that they are going to have a miming activity and gives information and examples on what miming is. - T asks groups to pick a famous talented person from the paragraphs they have just read and discuss how to explain that person through miming to the class. - When sts are ready, T asks one student from each group to come to the board and mime the famous talented person that they choose as a group to the class. - T asks class to guess which famous talented person is being mimed.	- Sts try to understand what miming is and ask questions about miming if they have any. - Sts with their group members pick a famous talented person from the paragraphs they have just read and discuss how to explain that person through miming to the class. - One of the sts from each group comes to the board and mimes the person and expects the class to guess which person s/he is miming. - Other sts in the class try to guess the person who is being mimed.	T→S S→T T→S S→S S→T T→S S→S S→T	***The aims of this follow-up activity are to:*** - enhance sts imagination and creativity with a drama activity. - check sts comprehension of the paragraphs, - control whether each sts read the paragraphs or not. - get sts have fun through miming and guessing. - motivate sts.

The original activity in the textbook:

6 a. Search the Net to get information about a talented person.

- his / her name
- childhood
- special skills
- things achieved so far
- comments about himself / herself

b. Now, write a paragraph about the person you've searched for and make a presentation in the class.

Game Time! Play "True or False".

Check Yourself		👍	👍👍	👍👍👍
I can	understand interview questions while listening.			
	understand simple information and phrases on holiday plans while listening.			
	act out a dialogue to make reservations and deal with possible problems.			
	read and understand different vacation types and schedules.			
	write an informal e-mail about my holiday experiences.			
	prepare a travelling guide.			

Medium Transfer

It is quite important for PSTs to be able to choose an appropriate M-MALL mobile application to be used with an M-MALL activity. A wrong choice may affect the whole activity as well as the expected outcomes. Therefore, after an awareness raising activity for the identification of a transferable textbook activity into M-MALL, it is necessary for PSTs to practice the identification and selection of an appropriate M-MALL mobile application, so the textbook medium will be transferred into an M-MALL medium.

Task: PSTs will be given four activities each of them including a language skill from a high school textbook prepared by Turkish Ministry of Education. They will be expected to revise the activity and integrate an appropriate M-MALL mobile application by evaluating the chosen application with the Multimodal Mobile Application Evaluation Checklist. Also, the PSTs will be asked to rewrite the activity with the instructions and tasks appropriate to the ideas of M-MALL.

The textbook activities that will be given to the PSTs are stated below. A sample activity from the textbook and a possible revision of the activity is presented below.

Textbook Reading Activity

Reading

a Discuss the following questions with your partner.

1 Do you like watching films at home or at cinema?

2 Can you name any films that you regret watching? If yes, what is its name?

THE PRESTIGE

The Prestige is a 2006 film directed by Christopher Nolan. It is based on an award-winning book of the same name by Christopher Priest. At the very beginning of the film, we see so many identical hats in a forest and hear the voice of Alfred Borden asking 'Are you watching closely?'

The story follows an intense rivalry between two magicians, Robert Angier and Alfred Borden in London of the late 19th century. They are two young men getting along well and working together at the start of a great career. During a dangerous magic performance, Borden ties Julia's hands (Angier's wife working with them) with a riskier knot. She is unable to slip the knot and drowns on stage in front of his husband, Angier.

This event becomes the turning point of their lives falling them apart. From then on, they start to work their own solo magic careers. At first, Borden feels deeply sorry and wishes he hadn't taken that risk and led to such a big tragedy. However, he understands that Angier will never leave behind his wife's tragic death and will surely take revenge on Borden. In the following scenes, they both sabotage each other's acts again and again; becoming gradually obsessed with creating the ultimate stage illusion and each tries to hurt even kill the other through their own tricks. To outwit each other and gain prestige, Angier and Borden do numerous tricks sacrificing everything they have in their lives; however, in the end Nolan shows that there is no winner except for the reality.

LION

The film *Lion* was adapted from the memory book *A Long Way Home* written by Saroo Brierly. It is based on the true story of the author himself who took 25 years to find his home.

The film begins with 5-year-old Saroo's and his 9-year-old brother Guddu's stealing coal from a train because of poverty. In one of these days, Saroo falls asleep inside an empty train at the local railway station. When he awakes, he finds himself in a locomotive speeding him away from everything he knows and loves. The panic sets in. He just cries and cries and calls out his brother but he is nowhere. Saroo wishes he hadn't followed his brother and instead he had stayed with his sister, Shekila at home. He is lost now and his life will never be the same again.

Saroo spends several terrifying weeks surviving on the streets of Calcutta before he is eventually placed in an orphanage and adopted by an Australian couple. He is brought up with love and joy by his new family from then on.

Twenty years later, he becomes a typical Australian youth. Yet the desire to find his family is always with him. When he discovers a computer app that shows aerial photos of the entire planet, he sees a chance to track down his birth family.

As a result of five-year search, Saroo finally finds his family. However, there is a tragedy amid his joy. Because he is told Guddu died the same night falling from a train while searching for him. Saroo also learns that throughout all these years he has been mispronouncing his own name, which is actually Sheru, meaning 'Lion'.

b Match the highlighted phrasal verbs in the text to the definitions below.

1 _____ : to look after a child until he or she becomes an adult
2 _____ : to have a friendly relationship with someone
3 _____ : to find someone or something after looking for them in a lot of different places
4 _____ : to continue no longer (*such as organisation, relationship or agreement*)
5 _____ : not to think about something (*especially an unpleasant experience*)
6 _____ : to begin and seem likely to continue (*something unpleasant*)

c Complete the sentences with the correct form of the phrasal verbs in 'Exercise b'.

1 I don't really _____ with most of my colleagues.
2 Gloria knew that she _____ her difficult childhood _____.
3 The disappointment begins to _____ when we see the magic is no longer there.
4 Barney's mother _____ him _____ by herself because Barney's father died when he was 10.
5 The deal _____ as we failed to agree on a price.
6 Jane finally managed to _____ her sister who escaped from home in Boston.

d Scan the texts and underline the regrets of Alfred Borden and Saroo Brierly.

Textbook Writing Activity

Project

Prepare a poster of your own unusual festival. Be sure that all the necessary information is written on it. Try to use interesting visuals and design it as colourfully as possible. Bring it to the class, stick all the posters on the wall with your classmates. Vote for the best one.

Textbook Listening Activity

4 Track 16 **Listen to Thilda and Patrick talking about an assignment on scientist Marie Curie. Tick the information you hear about her.**

- ◯ 1. She had a difficult childhood.
- ◯ 2. She was the best student in her secondary school.
- ◯ 3. Girls didn't use to go to university in Poland.
- ◯ 4. Marie and her sister had to make money for their education.
- ◯ 5. She studied Physics in France.
- ◯ 6. She became a professor at the University of Paris.
- ◯ 7. Her husband, Pierre Curie, was a scientist, too.
- ◯ 8. Their daughter, Irene Curie, was also a Nobel Prize winning scientist.

5 Track 17 **Listen again and match the events.**

1. Marie's family were poor	a. she was having a hard time.
2. While Marie was earning money, ...	b. she was exposed to radiation.
3. When Marie was a physics student at university, ...	c. when she was a little girl.
4. Marie and her husband made great discoveries	d. while they were working in their lab.
5. She was a young woman with two children	e. Bronya was attending university.
6. While she was doing experiments, ...	f. when her husband died.

Textbook Speaking Activity

8 a. Fill in the chart with your summer plans. Write two activities for each month.

What will you be doing in ...?

June	
July	
August	

b. Work in pairs. Talk to your partner about your plans.

- What are you going to do?
- Will you be doing something exciting / frightening / relaxing / tiring?
- Will you be travelling, staying at home or working?
- Who will you be with?
- Do you think you'll have a good time?

Sample Activity:

Instruction: You have four activities each of them including a language skill from a high school textbook prepared by Turkish Ministry of Education. Revise the activity and integrate an appropriate M-MALL mobile application. Rewrite the activity with the instructions and tasks appropriate to the ideas of M-MALL.

8 a. Fill in the chart with your summer plans. Write two activities for each month.

What will you be doing in ...?

June	
July	
August	

b. Work in pairs. Talk to your partner about your plans.

- What are you going to do?
- Will you be doing something exciting / frightening / relaxing / tiring?
- Will you be travelling, staying at home or working?
- Who will you be with?
- Do you think you'll have a good time?

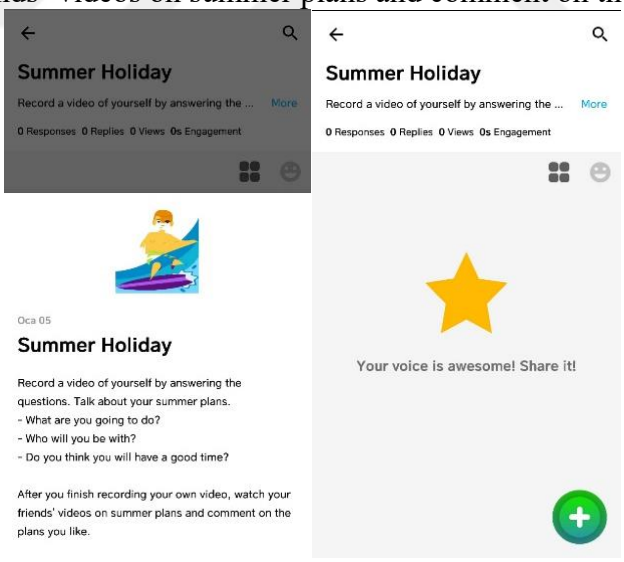
Possible Revision:

8a will be the same. For 8b the teacher can prepare a Flipgrid task and open a Flipgrid classroom for the students. (Assumption: students know how to use flipgrid)

Instruction:

8b. Join the Flipgrid classroom and record a video of yourself by answering the questions. Talk about your summer plans.

8c. Watch your friends' videos on summer plans and comment on the plans you like.



Problem Identification

PSTs sometimes choose an 'appropriate' textbook activity and a suitable M-MALL mobile application. On the other hand, the design of an activity can be problematic and they may not explain the M-MALL activity thoroughly to the students. For this reason, the instructor will present the 'real' problems via the instructions of PSTs taken from their lesson plans in the pilot study. Some of the activities given in the table are not problematic in terms of reflecting the spirit of an M-MALL activity; however, the others have problems. PSTs will be asked to identify whether the activities are M-MALL or not, and if not, they will state what the problems are. The activity instructions with an asterisk (*) are the problematic ones, and the problem is highlighted.

Task: Read the instructions for some activities stated in the table. Decide on whether that activity is an M-MALL activity or not by putting a tick on the column of your choice. State the problem/reason, if the activity is not M-MALL. Assume that each application is explained to the students with an example and they know how the applications work.

Instructions	**M-MALL**	**NOT M-MALL**	**Problem/Reason**
* Open Edmodo on your mobile phones and join the online class with the given password. Read the passage about *Weird Traditions All Around the World* and answer the **multiple choice questions asking the information given in the text** on Edmodo.			
Open Stormboard application and join the class project. Work in groups and find an interesting news online. Gather information about the news and find some related pictures and videos. Each column in the Stormboard class project belongs to a group in the class. Design your column using the date you gathered about the news and report the news on your column.			

*Open Edpuzzle application and join the online class with the given password. You will watch a video about *Movie Types*. While you are watching the video, it will stop occasionally and ask you **multiple choice, true/false and short answer** questions. Answer these questions to continue watching.			
*(Teacher sticks four QR codes print outs on the wall each of them including a very short text on a human right. It is a very crowded class) Open you QR code readers and you will be four groups (each group 8 students). **Scan the QR codes and read the texts.** Discuss the human right that you read with your friends.			
Open Padlet on your mobile phones and join my padlet page by scanning the QR code on the board. As an example here (which includes a book cover with a title as an incomplete sentence such as As Long As You Believe…) I want you to find book covers, movie posters or music album covers whose titles are like incomplete sentences and upload it on the padlet page. At the same time, you can complete the titles of the uploaded pictures by using the comment part under each picture. (E.g. Under the picture of a book cover with the title As Long As You Believe, students can write "you can get rid of every obstacle in your life".)			
*(After reading a text about Holiday Types) Open MindMaster application on your phones and join my mind map page with the given password. I will write "Holiday Types" in the middle and I want you to open branches and **write the types of holidays you have learned from the text you have read.**			

Micro-Teaching

As the last task of the M-MALL Training Model, the PSTs will be asked to work in groups and choose a textbook activity ‘appropriate” for M-MALL integration. They will be required to use the M-MALL Mobile Application Evaluation Checklist and choose a suitable M-MALL mobile application for the activity they choose from the textbook. They will be expected to write a lesson plan using the template given below and present their lessons in front of the training class as a micro-teaching activity.

Lesson Plan Template

Student Teachers	
Classroom Teacher	
Size of the class	
Level / Learning stage	
Age of the students	
Estimated time	
Date	
Materials	
Selected M-MALL mobile application	
Aims of using the selected M-MALL mobile application	
Learning Outcomes	

Anticipated Problems	**Possible Solutions**

Stage	**Teacher**	**Students**	**Interaction**	**Comments**
Warm Up ? Mins.				
Main Activity ? Mins.				
Follow Up ? Mins.				

APPENDIX
REFERENCES

Appendix-3: Sample reflection tasks of PSTs after Modelling in M-MALL Training

PST-X's Reflection for Modelling

Modelling Reflection Questions

Please answer these questions after the modelling process in which the instructor modelled and explained how to select an activity for M-MALL integration, how to select an M-MALL mobile application, how to integrate M-MALL into the chosen activity, and how to write a lesson plan for M-MALL.

1. How did the instructor identified the textbook activity which can be transferred to an M-MALL activity?

Our instructor asked us to evaluate whether M-MALL application should be applied or wasting time. Then our instructor asked us which M-MALL application we would use for this activity. She then explained to us in detail what application should be used and transferred the activity to the M-MALL application. Our instructor took advantage of the checklist when deciding on the adaptation of the activity.

2. How did the instructor choose an appropriate M-MALL mobile application for the selected activity?

Our instructor checked the contents and requirements of the activities. She decided in line with these controls. Our instructor presented the application according to the type of activity. For example, our instructor cited that Canva can be used as an application to develop students' speaking skills and creativity by asking students to create a creative poster and then to talk about this poster.

3. How did the instructor identified how and where (warm-up, main, follow up) to integrate the selected M-MALL mobile application?

Our instructor's suggestion was to summarize the subject, control student learning, relieve the student, or use student applications such as Kahoot, Cram, Recap, Flipgrid. The parts used in these applications are follow-up and warm-up. In addition, another suggestion was to teach the lesson as a whole, to be able to process interactive lessons, to make students see the lesson as a whole, to practice with applications like Mindmeister, Edpuzzle, Edmodo. This section covered the main activity section.

4. How did the instructor identify the aims, learning outcomes, anticipated problems and possible solutions?

Our instructor told us everything that we can live in this section. She stated that those goals and learning outcomes should be clear, comprehensible and detailed. She said that we should think about every possible problem that might arise during the course, and that we need to produce solutions to solve these potential problems.

PST-Y's Reflection for Modelling

Modelling Reflection Questions

Please answer these questions after the modelling process in which the instructor modelled and explained how to select an activity for M-MALL integration, how to select an M-MALL mobile application, how to integrate M-MALL into the chosen activity, and how to write a lesson plan for M-MALL.

1. How did the instructor identified the textbook activity which can be transferred to an M-MALL activity?

Firstly, the instructor chose a topic randomly and checked whether we could use M-MALL or not. She focused on listening activities and when deciding if the activities were appropriate for M-MALL, she had some criteria. The aim of these criteria was to make the activities multi-modal. She evaluated the activities in terms of practicality and time.

2. How did the instructor choose an appropriate M-MALL mobile application for the selected activity?

If the activity was required extra effort and also it was time-consuming to use M-MALL, she didn't choose this activity for M-MALL applications. At the same time, if the activity was efficient – I mean fruitful- there was no need to integrate M-MALL. She didn't choose this activity again for M-MALL because to use appropriate M-MALL mobile application, there should be some reasons such as practicality, time and cost. Thus, she paid attention to these reasons.

3. How did the instructor identified how and where (warm-up, main, follow up) to integrate the selected M-MALL mobile application?

She focused on the aim and outcome of the activity when selecting the M-MALL mobile application to integrate. Also she paid attention to the skill that we transferred to M-MALL application. Another factor that she paid attention was the aim of the application. We learnt several apps and they all led to different purposes and had different features.

4. How did the instructor identify the aims, learning outcomes, anticipated problems and possible solutions?

Her main aim was to make listening activities multi-modal so when choosing the activity which could be transferred to M-MALL, the instructor focused on whether it provided several modes at a time and these modes were meaningful for the learners. However, in some activities, there were text, audio, images, group work and etc. All these made the activity multı-model so there was no need to integrated M-MALL mobile application. At the same time, these kinds of M-MALL application made students motivating by letting them use their mobile phones during the class and also the apps provided us to save time. As everything had advantage, there was also the disadvantage or some problems that could be happen in the class. These issues could be technical problems, or student-based problems and everybody could have experience such kinds of problems.

Appendix-4: Sample reflections of PSTs for M-MALL Training Evaluation

PST-Y' Reflection for M-MALL Training

1. Sekiz hafta boyunca işlediğimiz "İngilizce öğretiminde M-MALL mobil uygulama kullanımı eğitimi" hakkında ne düşünüyorsunuz?

Sekiz hafta boyunca aldığımız bu eğitim sürecinde M-MALL mobil uygulama kullanımını, bir uzman olarak, kullanılan uygulamaların amacını, nasıl seçildiğini, uygulamaya nasıl entegre edildiğini, bunun ilgili nasıl bir ders planı hazırlamam gerektiğini başarılı bir şekilde öğrendim. Bu süreçte ders kitabında var olan herhangi bir aktivitenin nasıl daha ilgi çekici hale getirebileceğimi ve bu aktiviteleri öğrencileri motive edici şekilde verilebileceğini öğrendim. Sekiz haftalık eğitim boyunca birbirinden farklı uygulamalar öğrenerek ileride öğretmenliğim için artı olacak, dersimi zenginleştirebilecek birçok uygulamayı keşfetmiş oldum. Keşfettiğim bu uygulamaların nasıl kullanabileceğimi ayrıntılı bir şekilde öğrendim. Teknoloji çağının hızla geliştiği bir dönemde, öğrencilerin ise bu döneme çok yatkın olmasından dolayı, böyle bir eğitimin alınmış olması bir öğretmen için büyük bir fırsat olduğunu düşünüyorum. Gelen yeni neslin teknoloji ile olan bu ilişkisine ayak uydurabilmek ve derse olan ilgilerini bu şekilde daha da artırabilmek benim için her zamana bir avantaj olacaktır.

2. "M-MALL mobil uygulamaların İngilizce öğretiminde kullanılması eğitimini" içerik ve kullanılan materyaller açısından değerlendiriniz.

Aldığımız bu eğitim 8 hafta boyunca verilen, her hafta yeni bir aşamasını kaydettiğimiz bir süreç olarak gelişti. Bu süreç boyunca kullanılan uygulamalar birbirinden farklı ve dil öğretiminde hepsi farklı becerilere hitap edecek şekilde özelliklere sahipti. Her öğrenci birbirinden farklı öğrenme becerilerine sahip olduğu için kullanılan materyaller her öğrenciye hitap edebilecek bir şekildeydi. İngilizce öğretiminde kullanabileceğimiz bu materyallere süreç boyunca biz öğrenci gözüyle de bakabildiğimiz için uygulamalar hep ilgi çekici ve derse katkı sağlayabilecek nitelikteydi. İleride kullanabileceğim bu materyalleri, dil öğretiminin gelişiminde yeni bir dönem açabilmek için bir fırsat olarak görüyorum.

PST-Y' Reflection for M-MALL Training

1. Sekiz hafta boyunca işlediğimiz "İngilizce öğretiminde M-MALL mobil uygulama kullanımı eğitimi" hakkında ne düşünüyorsunuz?

İlk olarak, sekiz hafta boyunca yaptığımız eğitimler sonucunda öğrendiğim bilgilerin hayatım boyunca akademik olarak kullanacağım bilgiler olduğunu hatta bu bilgilere yeni teknoloji ve imkânlarla daha fazlasını ekleyebileceğimi düşünüyorum. Günümüzde, teknoloji bize bilgiye hızlı erişim konusunda yardımcı olduğunu biliyoruz ve bu teknolojiyi yani bu imkânı derslerimizde de kullanmak hem çocukların derse olan tutumunu etkilerken hem de zamandan tasarruf etmemizi sağlar. Bu süreçte, hocamızın yönlendirmesiyle bazı mobil uygulamaları öğrenerek ve yapmış olduğumuz sınıf içi aktivite ve tartışmalarla İngilizce öğretiminde M-MALL mobil uygulama kullanımının nasıl olması gerektiğini öğrendik. Aldığımız eğitim sonucunda hangi aktivite M-MALL için uygun, bu aktiviteye hangi uygulama uygun olur ve nasıl derslerimize entegre edebileceğimiz konusunda bazı değer yargılarına ulaştık. Aynı zamanda, ders planlarımızın ve yönergelerimizin nasıl olması gerektiği hakkında da bilgi sahibi olduk. Eğitimizin sonunda, örnek dersler hazırlayarak bu süreçte öğrendiğimiz bu bilgileri kullandık.

Bu örnek derslerle yaşayabileceğimiz birtakım sorunları da öngördüm diyebilirim. Bu sorunların bazıları internete bağlı veya uygulamaya bağlı sorunlarken bazıları da sınıf içinde yaşanan sorunlar olabilir. Sınıfın kalabalık olup olmaması, öğrencilerin isteksiz veya çekingen olması ve öğrencilerin telefona veya internet erişimine sahip olmaması gibi problemlerdir. Problemlere genel çözüm olarak öğrencilerin akranlarıyla grup halinde istenilen görevi yapması olabilir ancak bir süre sonra öğrenci böyle bir durumda kendini eksik veya yetersiz hissedebilir buda onun derse olan tutumunu olumsuz olarak etkileyebilir diye düşünüyorum. Bu sorun haricince, öğrendiğim bilgilerin öğretmenlik hayatımda yer edineceğini ve günümüz şartlarını göz önünde bulundurarak kullanışlı olduğunu düşünüyorum.

2. “M-MALL mobil uygulamaların İngilizce öğretiminde kullanılması eğitimini” içerik ve kullanılan materyaller açısından değerlendiriniz.

Bu eğitim sürecinde, öncelikle uygulamaları kendi özellik ve kullanım amaçlarına göre gruplanmış şekilde öğrendik. Eğitimin bu kısmı, derse giriş veya bu uygulamaların tanıtımı şeklindeydi diyebilirim. İlk başlarda nasıl kullanmam gerektiğine daha doğrusu nasıl entegre etmem gerektiğini kavrayamamıştım ancak sonraki haftalarda gerek hocamızın örnek ders planları göstererek, gerek sınıf içinde yapmış olduğumuz tartışmalarla bu uygulamaları nasıl entegre etmemiz gerektiğini nasıl uygularsak daha verimli sonuçlar elde edebileceğimizi öğrendim. Ayrıca eğitim sonunda gruplar halinde yapmış olduğumuz örnek derslerle bu süreçte edindiğimiz bilgilerin ön pratiğini yapmış olduk. Arkadaşlarımızın yaptığı örnek derslerin de katkı sağladığını söyleyebilirim çünkü bu derslerle farklı bakış açılarını da görerek fikir sahibi oldum. Bu edindiğim bilgileri, öncelikle öğretmenlik uygulama dersinde sonra da kendi akademik hayatımda da yer vereceğimi düşünüyorum.

Appendix-5: The Research Ethics Approval

Evrak Kayıt Tarihi: 13.02.2019 | Protokol No: 13141

Tarih: 27.02.2019

ANADOLU ÜNİVERSİTESİ
SOSYAL VE BEŞERÎ BİLİMLER BİLİMSEL ARAŞTIRMA VE YAYIN ETİĞİ KURULU
KARAR BELGESİ

ÇALIŞMANIN TÜRÜ:	BAP Projesi-Doktora Tez Çalışması
KONU:	Eğitim Bilimleri
BAŞLIK:	Çokmodlu Mobil Destekli Dil Eğitimi Sınıf Uygulamaları: Öğretmen Adayı Eğitimi Üzerine Bir Çalışma
PROJE/TEZ YÜRÜTÜCÜSÜ:	Dr. Öğr. Üyesi S. İpek KURU GÖNEN
TEZ YAZARI:	Gülin ZEYBEK
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Appendix-6: M-Learning Scale (MLPS)

Mobile Learning Perception Scale (Uzunboylu & Özdamlı, 2011)

The purpose of this scale is to determine your perceptions towards mobile learning. Mobile Learning in the scale will be specified as M-learning. For each sentence, please mark one of the options -strongly agree, agree, undecided, disagree and strongly disagree- to express your opinion on that sentence. Your answers will be used for research purposes only and will not be shared with third parties. Thank you for your contribution.

1. Strongly Disagree 2. Disagree 3. Undecided 4. Agree 5. Strongly Agree

Gülin ZEYBEK

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	1	2	3	4	5
1. M-learning tools remove the limitation of time and space	1	2	3	4	5
2. M-learning applications do not generate effective learning-teaching environments	1	2	3	4	5
3. M-learning technologies is an effective method in exact transmission of knowledge in learning activities	1	2	3	4	5
4. Utilization of m-learning technologies increases students' motivation	1	2	3	4	5
5. Programs such as Messenger and Skype which are used through M-learning tools, provide opportunity for discussions on subject without the limitation of time and space	1	2	3	4	5
6. An effective learning environment could be produced by sending lecture notes via M-learning tools such as e-mail	1	2	3	4	5
7. M-learning systems increase the quality of lessons	1	2	3	4	5
8. M-learning technologies can be used as a supplement in all classes on all subjects	1	2	3	4	5
9. I can have a prompt access to materials that I need which is related to my branch by means of mobile technologies	1	2	3	4	5
10. M-learning applications facilitate teaching the subjects in my	1	2	3	4	5

branch					
11. M-learning applications are reliable for personal use	1	2	3	4	5
12. I can use M-learning applications as a good discussion tool with my students in the learning activities	1	2	3	4	5
13. M-learning applications is a good method in learning my specialized subject	1	2	3	4	5
14. M-learning applications is a good method for the interaction, which is necessary in my class	1	2	3	4	5
15. I would like to supplement my classes in future with M-learning method	1	2	3	4	5
16. M-learning applications provides a convenient environment to do discussions on my specialized subject	1	2	3	4	5
17. M-learning applications are convenient to share my specialized knowledge with my colleagues	1	2	3	4	5
18. M-learning applications can be used to supplement the traditional education	1	2	3	4	5
19. Learning activities can be realized by means of M-learning applications in e-learning	1	2	3	4	5
20. Communication is possible in chat programs by means of mobile technologies	1	2	3	4	5
21. Course materials could be sent to students via MMS messages	1	2	3	4	5
22. Teacher-student communication is facilitated by means of M-learning tools	1	2	3	4	5
23. Student-student communication is facilitated by means of M-learning tools	1	2	3	4	5
24. Learners can access the instructional websites with mobile technologies	1	2	3	4	5
25. Students can have more effective communication with mobile technologies than traditional methods	1	2	3	4	5
26. Teaching–Learning process should be performed any with M-learning technologies	1	2	3	4	5

Appendix-7: Sample Lesson Plans of PSTs with M-MALL Implemented in Teaching Practice

PST-X: First Week Lesson Plan

Student Teachers	
Classroom Teacher	
Size of the class	24
Level / Learning stage	A2/B1
Age of the students	14/15
Estimated time	40min
Date	April,11th 2019
Materials	Teenwise (The book given by the Ministry of Education) Mobile Phone, Smart Board, Flipgrid
Selected M-MALL mobile application	Flipgrid: This app is a social learning platform. It enables teacher to ask a question using the app and then the students answer the question by shooting their own video. Students are then able to respond to one another, creating a "web" of discussion.
Aims of using the selected M-MALL mobile application	The whole idea behind Flipgrid is to enhance students voice. Flipgrid gives a chance to the quietest student in the class to have his/her voice heard. No one can dominate a classroom discussion as the teacher have the ability to control the lengths. It can give the teacher a chance to see his/her students' performance even after the class. It means the performance displayed by the students is observable for a long time period. Sometimes the teacher cannot recognize the mistake made by the student, s/he can watch the videos, recorded in Flipgrid, and see the points worth-stressing. Students' are monitoring the response of their classmates as well. They need to monitor all the videos for being able to respond to the question. As they monitor each other's responses, they are exposed to different ways of thinking. Flipgrid automatically elevates the academic level of the students, simply by making them use their voice.
Learning Outcomes	Students will be able to make & respond suggestions & requests. Students will be able to ask simple invitation questions and give them simple responses, orally.

Anticipated Problems for M-MALL	**Possible Solutions for M-MALL**
Students may not be willing to speak. Students may not have internet connection. Some students may not have smartphones.	Teacher tries to encourage students to participate. Teacher may share her own internet. Teacher may form pairs or groups.

	Teacher	Student	Inter.	Comments
Warm-up Activity (5 minutes)	-Teacher greets students. -Teacher asks students the following questions; * When is your birthday? * What did you do in your last birthday? *How do you invite your friends to your birthday party? *How do you accept or refuse to join a party?	*Students respond to the questions.	T→S	In this part the aim of the teacher is to provide a smooth transition to the main activity.
Main Activity (20minutes)	-Teacher asks students to connect to Flipgrid, which they downloaded beforehand. -Teacher shares the code with students and tell each student his/her own ID. -Teacher asks students to choose one of their friends and shoot a very short video using speech bubbles in page 113. -Teacher warns students to choose only one friend. -After students shoot and upload their videos, teacher asks students to watch videos and shoot responses to the one that their name was uttered.	-Students connect to Flipgrid. -Students log in to Flipgrid, using the code given by the teacher. -Students watch all the videos recorded by their friends and give responses to the ones their name is uttered.	T→S T→S S→S	The aim of this part is to give an opportunity to speak to the quietest student in the class. As it is an interactive and communicative activity, students will probably enjoy it. They will learn the chunks given in the activity 5 in an entertaining way.
Follow-up Activity (13 minutes)	*Teacher forms groups of 5. *Teacher picks one student from each group. *Teacher asks to other group mates to prepare the picked student for a costume party using the materials in the classroom. *The group which gets the most applause will be announced as the winner group.	*Students participate to the activity.	T→S S→S	This part helps students to calm down after an intensive main activity part.
Homework (2 mins)	-The teacher gives students their homework. She asks them to prepare a handmade invitation letter for a unusual party that they will throw.	Students note their homework	T→S	The teacher aims to activate students creativity by giving a homework like this.

PST-X: Last Week Lesson Plan

Student Teachers	
Classroom Teacher	
Size of the class	24
Level / Learning stage	A1/A2 9th grade
Age of the students	14/15
Estimated time	40min
Date	May,2nd 2019
Materials	Smart Board, Cram,Bandicam video,Worksheet
Selected M-MALL mobile application	Cram: Cram is an app which enables you to prepare flashcards. It provides teachers an educative environment and help them to reiterate the topic in an entertaining way. It also let students collaborate with each other perfectly.
Aims of using the selected M-MALL mobile application	Cram: I am using this app because I want to create a competitive environment. I want to reiterate the topic I covered during the lesson in a more enjoyable way. I am planning to use it as a follow up activity so it can help me to relax students down after an intensive vocabulary teaching, while doing it they will also practice what we covered.
Learning Outcomes	Students will learn how to use the following vocabulary; -connect to wi-fi -download -upload -use GPS -send an e-mail -search the net -surf on the internet -turn on/ turn off -follow -unfollow -share link -log in -sign up

Anticipated Problems for M-MALL	**Possible Solutions for M-MALL**
Students may not be willing to participate.	Teacher tries to encourage students to participate.

	Teacher	**Student**	**Inter.**	**Comments**
Warm- up (2mins)	*T greets students. *T distributes students a worksheet in which the target vocabulary is presented. *T asks students 'What might be the topic about ?'	*Ss check the worksheet and try to guess what is the topic.	T→S S→T	*T aims to make students discover the topic.

Main Activity (25mins)	*T makes students watch the video that she prepared using Bandicam. *After the presentation part T distributes them the worksheet and gives them 5 minutes to complete it. *T asks students to give the answers one by one and write the answers on the board. *Afterwards T distributes them the crossword puzzle. After students complete it she asks them to give the answers one by one and writes them on the board. *Teacher repeats the words again and asks students to repeat with her.	*Ss watch the video. *Ss do the activity. *Ss read their answers and correct their mistakes if they have. *Ss do the activity and read their answers.	T→S T→S S→T T→S S→T T→S	*T presents the target lexicon using a more attractive way. *T tries to reiterate the topic. *T tries to reiterate the topic. T aims to summarize the topic.
Follow-up Activity (13mins)	*T form 2 groups (Boys and Girls). *T connect to Cram from the smartboard and picks one student from each group. Asks Ss to come to board and match the pictures with the correct word. *T keeps time and gives the points fairly. *T conducts the activity till the end of the lesson.	*Ss come to the board and match the words with their picture. They try to do it as fast as possible in order to get the point.	T→S	This part enables students to have fun and reiterate the topic while having fun.
Homework	-Teacher asks students to write a paragraph about the effects of internet vocabulary in our mother tongue.	Ss note their homework	T→S	T aims to reiterate the information about the topic and tries to enable students' creativity.

PST-Y: First Week Lesson Plan

Student Teachers	
Classroom Teacher	
Size of the class	26
Level / Learning stage	11th grade/B1
Age of the students	16-17
Estimated time	40 minutes
Date	21/03/2019
Materials	M-MALL Mobile Application, smartboard/projector, grammar activities about 'Reported Speech'from 11th grade textbook (Direction A2 Türkiye, page 80).
Selected M-MALL mobile application	**Kahoot** is a tool for used for administering quizzes, discussions or survey. It is a game based classroom response system played by whole class in real life. Multiple-choice questions are projected on the screen. Studens answer the questions with their smartphone, tablet or computer. **Hp Reveal/ Aurasma** is an application that creates augmented reality for users. People can use this application to communicate a variety of different digital context that are attached to a number of physical environments. Augmented reality is a live direct or indirect view of a physical, real-world environment, such as everyday objects, images and places, whose elements are augmented or supplemented by computer-generated sensory inputs. AR provides an interactive opportunity that engages the viewer with a new vision or experience through graphics, animations, video, audio or three-dimensional content.
Aims of using the selected M-MALL mobile application	Kahoot ; • motivates sts by letting them use their mobile phones during the class, • provides sts chances to give immediate response right after the topic. • provides sts to answer questions entertainingly • provides to make lesson fun. • saves time. HP Reveal/ Aurasma ; • motivates sts by letting them use their mobile phones at the lesson, • allows sts to repeat new information outside the classroom, • gives sts information about the important points of the topic, • visualize the grammar topic.
Learning Outcomes	The students will be able to; • discover the rules by finding difference between two texts. • have knowledge about reported speech. • make sentences with reported speech.

Anticipated Problems	**Possible Solutions**
Some students may not be able to join Kahoot and HP Reveal/Aurasma. There may be a problem with internet connection. Students may be reluctant to use their mobile phones in the class. Some students may not have any smartphones	Teacher may walk around and help them join the online class. Teacher can share her own internet with students. Teacher will encourage by showing them how enjoyable the lesson will be with their participation. Teacher form pairs or group for these students to join the activities.

	Teacher	**Student**	**Inter.**	**Comments**

Warm-up Activity (5-6 minutes)	- T asks sts to look at the photo on the book (page 80). - T asks the following question about the photo; * What do you think is going to happen? * Why do you think that? - Then, T asks them to read the text on the exercises 2. -T chooses a student to read aloud. - T asks question about the text. * Why did most listener think that the crime was a joke?	- Sts answer the questions. -St reads the text. Other students listen their friend. (If it is necessary, another student reads the text one more time.)	T→S S→T T→S S→T S→S	*The aims of this warm-up activity, in general, are to:* - get sts attention, - arouse curiosity, - activate sts' schemata, - prepare sts to the grammar activities in the lesson.
Main Activity 1 (4-5 minutes)	-T plays the audio on page 80 activity 3 and asks sts to complete the blanks what they listen. - After they listen, T wants them to give responses. -T gets answers from the sts.	-Sts listen to the dialogue and complete the blanks according to the dialogue. -Sts give responses	T→S T→S S→T	*The aims of this main activity are to:* -practice sts English listening comprehension skills. -raise awareness about Reported Speech which is the topic of the lesson.
Main Activity 2 (20 minutes)	-T asks them to compare the text and the dialogue (activity 4). -T asks sts to complete rule chart on activity 4 with the correct tenses. -T explains the rules of Reported Speech -T wants sts to open HP Reveal application which T assigns them to download the app before the lesson. T also explains how they can use the application. - T asks sts to scan the page 80 by using HP Reveal app and watch video about reported speech. http://auras.ma/s/TiXt6 http://auras.ma/s/u60dF	-Sts try to find out the difference between direct speech and indirect speech (reported speech). -Sts complete the chart with the correct tenses. They give the answers. -Sts listen to the teacher and take notes. -Sts get ready and open HP reveal on the mobile phones. They listen to the explanations made by T. -Sts watch the video which is uploaded by T before the lesson.	T→S S→T T→S S→T T→S T→S T→S S→T	*The aims of this main activity are to:* - make students understand what the differences are between direct speech and indirect speech (reported speech). -explain the rationale use of Reported Speech. *The aims of using HP Reveal mobile application is to:* -visualize the grammar topic -motivate sts by letting them use their mobile phones at the lesson, - allow sts to repeat new information outside the classroom, -give sts information about the important points of the topic.

Follow-up Activity (10 minutes)	- T asks sts to open their smartphones - T asks sts to open Kahoot application and explains how they use the app. -T asks sts to connect to the quiz via given code. -T asks sts to create a nickname to start their quiz. - The quiz starts and T asks them to read the questions and answer. -When Kahoot quiz finishes T announce the winners of the quiz. https://create.kahoot.it/details/reported-speech/b49fd52b-b0b2-4191-9a2b-a0d3065d1f62 -Then the lesson ends.	- Sts open their smartphones -Sts open Kahoot application on their smartphones. -Sts connect to the quiz via given code. -Sts create a nickname to start the quiz. -Sts answer the questions on the quiz	T→S T→S T→S S→T S→T	*The aims of this follow-up activity are to:* - enhance motivation, -increase competition among the sts, - provide sts opportunities to be active in the classroom, -provide sts to use new information/ knowledge in an enjoyable way.

PST-Y: Last Week Lesson Plan

Student Teachers	
Classroom Teacher	
Size of the class	35
Level / Learning stage	B1 9th Grade
Age of the students	14-15
Estimated time	40
Date	29.04.2019
Materials	M-MALL Mobile Applications (Padlet and Flipgrid), smartboard/projector, Listening and Speaking activities from 9th Grade Course book (Teenwise 9th Grade Student's Book p.98-99)
Selected M-MALL mobile application	***Padlet**:* It is a screen that users can upload pictures, videos, record their voice, write their own text or upload some documents collaboratively. Also other users can add something to it and as other users add to it the page will update in real time. ***Flipgrid**:* It is a video discussion platform that allows users to share their own videos especially their own recording on a topic assigned. Teachers spark discussion by posting topics and questions to a class, school, professional learning community, or the world. Students record, upload, view, react, and respond to each other's short videos.
Aims of using the selected M-MALL mobile application	**Padlet**; -saves time, - avoids wasting paper. -teaches the target vocabulary of the unit. -presents the vocabulary at the same time in a whole. -allows sts to repeat the vocabulary outside the classroom without using book. -prepares sts to listening activity. **Flipgrid**; -provides students chances to give immediate response right after the topic. - motivates students by letting them use their mobile phones during the class. -engages all of the students actively in the classroom. - provides to make lesson fun, -enhances students' speaking skills, -provides sts to express themselves comfortably by using Flipgrid.
Learning Outcomes	Students will be able to; -improve their listening skills. -identify the most frequently used expression about health problems. -improve their speaking skills. -ask for and give advice about health problems.

Anticipated Problems for M-MALL	**Possible Solutions for M-MALL**
Some students may not be able to join Flipgrid. There may be a problem with internet connection. Some students may not have any smart phones. Students may have problem to upload their videos. The class might be noisy so videos might be incomprehensible.	Teacher may walk around and help them join the application. Teacher can share her own internet with students. Teacher forms pairs or group for these students to join the activities. Teacher can help students to upload their videos. Teacher warns students to be as quiet as possible.

	Teacher	Student	Inter.	Comments
Warm-up Activity (10 minutes)	- T greets students - T teaches target vocabulary of the unit. - T opens Padlet to teach target vocabulary on the smart board. - There are 10 pictures about most frequent health problems on Padlet. - T tells the meanings of the words and shows their pictures on Padlet. -T wants sts to repeat pronunciation of the vocabulary. -Then T wants sts to open their course book page 98. -T wants sts to match the phrases with the pictures. -They all check the answers. -T wants sts to do exercise 2 on page 99.	- Sts greet Teacher. -Sts learn the target vocabulary. -Sts repeat the pronunciation of target vocabulary -Sts open their course book. -Sts match the phrases with the pictures. -Sts tick the things they do when they have the flu.	T→S S→T T→S S→T T→S S→T T→S S→T	*The aims of this warm-up activity, in general, are to:* - get sts attention. - activate sts' schemata. - teach target vocabulary of the unit. - prepare sts to the next activity (listening activity). -teach the pronunciation of target vocabulary. *The aims of using Padlet in this activity are to:* -save time, - avoid wasting paper, -present the vocabulary at the same time in a whole.
Main Activity 1 (5 minutes)	-T opens the audio in exercise 3 on page 99. -After they listen, T wants sts to decide who says the sentences and to write D for the doctor and A for Anita. -T checks the answers with the class.	- Sts listen to the audio. -Sts decide who says the sentences and write their initial letter.	T→S T→S S→T	*The aims of this main activity are to:* -enhance their listening skills, -check their listening comprehension. -identify the most frequently used expressions about health problems.
Main Activity 2 (5 minutes)	-First, T wants sts to read the sentences in exercise 4. -Then, T replays the audio. -T wants sts to choose the doctor's advice for Anita.	-Sts read the sentences in exercise 4 page 99. -Sts listen to the audio again. -Sts choose the doctor's advice for Anita.	T→S T→S S→T	*The aims of this main activity are to:* -enhance their listening skills, -check their listening comprehension.

Main Activity 3 (5 minutes)	- T wants sts to read at the problems and advice boxes in exercise 5. -T wants sts to look at the pictures and given sample dialogue in pairs. -T wants sts to complete the dialogue with appropriate advice from the box. -T checks the answers with the class.	- Sts read the problems and advice boxes. -Sts look at the pictures and sample dialogue. -Sts fill in the dialogues using the phrases from the boxes in pairs.	T→S T→S S→T T→S S→T S→S	*The aims of this main activity are to:* - prepare sts to the follow-up activity. -trigger collaborative work.
Follow-up Activity (15 minutes)	-T wants sts to prepare a dialogue as in exercise 5. -T wants sts to use the problems in warm-up activity. -Then, T wants sts to open Flipgrid app on their mobile phones. - T explains how to use the application. -T wants sts to record themselves to present their dialogue that they have prepared. - T wants sts to upload their videos that they have recorded. -If the time is enough, they will watch their videos in the class or T gives feedback later.	-Sts listen to their teacher. - Sts log into the app by scanning the QR or the class code. -Then sts join the class by using the IDs that they have been given by teacher. -Sts record themselves. -Sts upload their videos. -Sts watch friends' videos.	T→S T→S T→S S→T T→S S→T T→S S→T T→S S→T	*The aims of this follow-up activity are to:* - enhance their speaking skills, - provide sts to use the phrases that are learned in this lesson. *The aims of using Edmodo in this activity are to:* - motivate sts by letting them use their mobile phones during the class, - provide to make lesson fun, -enhance students' speaking skills, -provide sts to express themselves comfortably by using Flipgrid, -engage all of the students actively in the classroom, -provide students chances to give immediate response right after the topic.

Appendix-8: Guidance Questions for Data-led Reflective Diaries

Turkish:

Çokmodlu Mobil Destekli Dil Eğitimi ile ders hazırlayıp işleyen öğretmen adayları için:

1. Derste kullanılan M-MALL mobil uygulama hakkında ne düşünüyorsunuz?
2. Kullandığınız M-MALL mobil uygulamanın ders planına (İngilizce Öğretimine) entegrasyonu hakkında ne düşünüyorsunuz?
3. Seçtiğiniz uygulamayı kullanırken ders esnasında kendinizi nasıl hissettiniz?
4. Dersinizi hazırlama sürecinde seçtiğiniz uygulama ile ilgili karşılaştığınız bir sorun oldu mu? Evet, ise, belirtiniz.

Çokmodlu Mobil Destekli Dil Eğitimi ile hazırlanmış ders dinleyip gözlem yapan öğretmen adayları için:

1. Arkadaşınızın kullandığı M-MALL mobil uygulama hakkında ne düşünüyorsunuz?
2. İzlediğiniz dersin işleyiş açısından M-MALL mobil uygulamasının etkisini nasıl değerlendirirsiniz?
3. İzlediğiniz dersi siz işliyor olsanız M-MALL mobil uygulamayı nasıl kullanırdınız?
4. Arkadaşınız seçtiği M-MALL mobil uygulamayı kullanırken ders esnasında siz neler hissettiniz?

English:

For prospective teachers who prepare and conducted lessons with Multimodal Mobile Assisted Language Education:

1. What do you think about the M-MALL mobile application you used in the lesson?
2. What do you think about the integration of the M-MALL mobile application you used into the lesson plan (English Language Teaching)?
3. How did you feel during the lesson while using the application you selected?
4. Have you encountered any problems with the application you selected during the course preparation process? If yes, please specify.

For pre-service teachers who listened and observed the lessons prepared with Multimodal Mobile Assisted Language Education:

1. What do you think about the M-MALL mobile application your friend used?
2. How would you evaluate the impact of the M-MALL mobile application in terms of its function in the lesson you observed?
3. If you were teaching the lesson you observed, how would you use the M-MALL mobile application?
4. What did you feel during the lesson while your friend was using the M-MALL mobile application s/he chose?

Appendix-9: Sample Reflective Diaries of PSTs for lessons with M-MALL in Teaching Practice

Reflective Diaries of PSTs for their own Lessons

PST-X: First Week

Adınız Soyadınız:-

Kaçıncı dersiniz? 1

Dersi işlediğiniz tarih: 11.04.2019

Kullandığınız M-MALL uygulaması: Flipgrid

Yansıtıcı Günlükler İçin Yönlendirme Soruları:

(Çokmodlu Mobil Destekli Dil Eğitimi ile ders hazırlayıp işleyen öğretmen adayları için)

1. Derste kullanılan M-MALL mobil uygulama hakkında ne düşünüyorsunuz?

Ders planımda da belirttiğim gibi bence Flipgrid dersi sıkıcı olmaktan kurtarabilecek, en sessiz öğrencinin dahi konuşmasını sağlayabilecek ve uzun süreli gözlem imkânı sunabilecek bir uygulama. Tabi bunların yapılabilmesi için öğrenci grubunun istekli ve yardımlaşmaya açık olması şart.

2. Kullandığınız M-MALL mobil uygulamanın ders planına (İngilizce Öğretimine) entegrasyonu hakkında ne düşünüyorsunuz?

İstekli bir grupla çok güzel sonuçlar verebilecek bir uygulama. Fakat xxx Anadolu Lisesinde bu uygulamanın anlatılması, uygulanması ve öğrenciler tarafından kullanılması çok zor. Çünkü öğrencilerin ciddi disiplin problemleri var. Uygulamayı ana aktiviteme entegre etmiştim ve kafamda uygulamanın açıklanması ve aktivitenin yapılması için toplam 20 dk süre vermiştim. Öğrencilerin uygulamayı anlayıp bağlanması 20dkdan fazla sürdü. Uygulamaya bağlandıklarında internetlerinin olmadığını söylediler, internet paylaştığımızda aynı anda 10 kişi bağlandı, oyun veya film indirmeye çalışanlar oldu. Bu durum uygulamaya video yüklemeye çalışan birkaç öğrencinin de videolarının yüklenme sürecini geciktirdi. İnternete ve öğrencilere dair aksaklıklar dersin akışını olumsuz yönde etkiledi ve sınıf yönetimi güçleşti. Yaptırdığım

aktivitenin bir konuşma aktivitesi olması sebebiyle sınıfta rahatsız edici bir uğultu vardı. Bu uygulama daha sakin ve katılıma istekli bir öğrenci grubuyla kullanılmalı bence.

3. Seçtiğiniz uygulamayı kullanırken ders esnasında kendinizi nasıl hissettiniz?

Öğrencilerin bu tip uygulamaları sevdiğini ve eğlenceli bulacaklarını düşünerek dersime başlamıştım, öğrenciler derse katılım sağlamak için herhangi bir istek belirtisi göstermediklerinde biraz üzüldüm ama sınıfı toparlamaya çalışmaya devam ettim. 25 dk boyunca mevcudu 24 olan sınıftan sadece 3 kişi düzgün videolar yüklemişti. Öğrencilerin saygısız davranışları bir yerden sonra ciddi manada sinir bozucu olmaya başladı. Fakat yine de son dkya kadar uygulamanın bir noktada o öğrencilerle bile sonuç vereceğini umdum ama olmadı. Bu tarz öğrenci gruplarıyla her birine erişimin verilmediği Kahoot, Plickers gibi uygulamaların kullanılması gerektiği kanısına vardım.

4. Dersinizi hazırlama sürecinde seçtiğiniz uygulama ile ilgili karşılaştığınız bir sorun oldu mu? Evet, ise, belirtiniz.

Hazırlarken bir sorun yaşamadım hatta bence eğlenceli bir süreçti ama internete ve öğrenciye dayalı sorunlar ders esnasında dersin tamamının işleyişini etkiliyor.

PST-X: Last Week

Adınız Soyadınız:
Kaçıncı dersiniz? 4
Dersi işlediğiniz tarih: 02.05.2019
Kullandığınız M-MALL uygulaması: Cram

Yansıtıcı Günlükler İçin Yönlendirme Soruları:

(Çokmodlu Mobil Destekli Dil Eğitimi ile ders hazırlayıp işleyen öğretmen adayları için)

1. Derste kullanılan M-MALL mobil uygulama hakkında ne düşünüyorsunuz?

Cram hem flash card oluşturma olanağı sağlayan hem de öğretilen konuları pekiştirmek için eşleştirme oyunları hazırlayabileceğimiz harika bir uygulama. Hazırlaması,

kullanımı, açıklanması ve uygulaması çok kolay. Her sınıfa lazım diyebileceğim bir uygulama.:)

2. Kullandığınız M-MALL mobil uygulamanın ders planına (İngilizce Öğretimine) entegrasyonu hakkında ne düşünüyorsunuz?

Ben uygulamayı konu anlatımı ve aktivitelerimi bitirdikten sonra follow up kısmında kullandım. Sınıfı 2 gruba böldükten sonra her gruptan sırayla birer kişi alarak öğrencilerin kelimeleri eşleştirme sürelerine göre hangi grubun puan kazandığını belirledim. Öğrenciler uygulama esnasında çok eğlendiler ve gönüllü şekilde katıldılar. Öğrendiklerini fark ettiklerinde ve puan aldıklarında verdikleri tepkiler güzeldi.

3. Seçtiğiniz uygulamayı kullanırken ders esnasında kendinizi nasıl hissettiniz?

Öğrenciler istekli şekilde katılım sağladıkları için çok mutlu oldum. Oyun esnasında öğrencilerin eşleştirmeler de çok fazla hata yapmamaları da beni çok sevindirdi.

4. Dersinizi hazırlama sürecinde seçtiğiniz uygulama ile ilgili karşılaştığınız bir sorun oldu mu? Evet, ise, belirtiniz.

Cram hazırlaması ve kullanması oldukça kolay bir uygulama. Hiçbir sorun yaşamadım.

PST-Y: First Week

Adınız Soyadınız:
Kaçıncı dersiniz? 1.ders anlatımı
Dersi işlediğiniz tarih: 21.03.2019
Kullandığınız M-MALL uygulaması: Hp Reveal/ Aurasma - Kahoot

Yansıtıcı Günlükler İçin Yönlendirme Soruları:

(Çokmodlu Mobil Destekli Dil Eğitimi ile ders hazırlayıp işleyen öğretmen adayları için)

1. Derste kullanılan M-MALL mobil uygulama hakkında ne düşünüyorsunuz?

İlk ders anlatımım için ana aktivitemde Hp Reveal, follow- up aktivitesi olarak Kahoot'u seçtim. Hazırlama sürecinde herhangi bir problemle karşılaşmadım ancak Hp

reveal uygulamasını kullanırken ders esnasında bazı teknik problemler yaşadığımı söyleyebilirim. Her öğrencinin telefonu, önceden yüklemiş olduğum aurayı taramadı veya bulamadı. İlk başta bu sorun sınıfın çoğunda yaşandığı için kaygı oluşturdu diyebilirim ancak öğrencilerin keşfettiği 'çift tıklama' sayesinde yüklenilen görüntülerin sabit kaldığını öğrendikten sonra izleyemeyen öğrencilere de izletmelerini sağladım. Diğer zamanlarda İngilizce dersine karşı ilgisiz olan sınıfın bile bu tarz aktivite ve uygulamalarla ilgilerini çekebileceğimizi fark ettim. Diğer bir yaşadığım sorun ise konuyla bağlatılı hazırlamış olduğum Kahoot için çok modlu olması amacıyla görseller ve Youtube'dan videolar yüklemiştim ancak akıllı tahtaların Youtube gibi sitelere erişim izni olmadığı için yüklemiş olduğum videolar açılmadı. Hp reveal uygulamasının dezavantajlarını -benim yaşadığım ve yine aynı grupta yer aldığımız Seval arkadaşımın da yaşadığı problemi- göz önünde bulundurarak tekrar kullanacağım bir uygulama olduğunu söyleyebilirim. Kahoot, hepimizin de bildiği gibi, quiz aracı olarak kullanabileceğimiz pratik bir uygulama. Sadece akıllı tahta da videoların açılamayacağını düşünmemiştim. Bu sebeple, başka sefere tek dikkat edeceğim noktası bu olduğunu düşünüyorum.

2. Kullandığınız M-MALL mobil uygulamanın ders planına (İngilizce Öğretimine) entegrasyonu hakkında ne düşünüyorsunuz?

Seçtiğim iki uygulama da İngilizce öğretiminde kullanabileceğimiz mobil uygulamalardır. Bu iki uygulamayı da sadece belirli konularla değil neredeyse her konuya uygun şekilde öğrencilere hazırlayabiliriz. Aynı zamanda yine bu iki uygulama da belirli yaş grubuna değil her yaş grubundaki ve her seviyedeki öğrenci veya bireylere hitap etmesi açısından sürekli kullanabileceğimiz uygulamalar olduğunu söyleyebilirim.

3. Seçtiğiniz uygulamayı kullanırken ders esnasında kendinizi nasıl hissettiniz?

Bu uygulamaları seçerken bazı tereddütlerim ve kafam da oluşturduğum bazı sorular vardı. Acaba olmaz mı? Ya işe yaramazsa? Hatta derste yaşadığım bazı sorunlara rağmen, dersin sonunda bu tarz olumsuz düşüncelere sahip değildim. Dikkat etmem gereken noktaları görmüş oldum. Belki diğer anlatımlarımda başka problemlerle karşılaşacağım ancak bunlar bile ilk baştaki kadar olumsuz hissettirmiyor(acaba olmaz mı gibi). İşlediğimiz dersleri eğlenceli hale getirmek bizim elimizde. Bu derste az da olsa derse ilgilerini çekebildiğimi düşünüyorum ve bende de bu güdüleyici bir güç

olarak hissettiriyor. Çocuklarda eğlenerek öğrenmeyi arttırdı. Hatta, derste telefonlarını kullanacaklarını öğrendiklerinde bile yüzlerinde oluşan anlık şaşkınlık ve gülümseme bile doğru yolda olduğumu hissettirdi.

4. Dersinizi hazırlama sürecinde seçtiğiniz uygulama ile ilgili karşılaştığınız bir sorun oldu mu? Evet, ise, belirtiniz.

Hazırlama sürecinde yukarıda bahsettiğim gibi herhangi bir sorun yaşamadım ancak uygulamayı kullanırken yaşadığım sorunlar da 1.soruda bahsettiğim gibi oldu. Sonraki seferlere bu konuları göz önünde bulundurarak daha dikkatli olacağımı düşünüyorum.

PST-Y: Last Week

Adınız Soyadınız:
Kaçıncı dersiniz? 5. Ders anlatım
Dersi işlediğiniz tarih: 29.04.2019
Kullandığınız M-MALL uygulaması: Padlet& Flipgrid

Yansıtıcı Günlükler İçin Yönlendirme Soruları:

(Çokmodlu Mobil Destekli Dil Eğitimi ile ders hazırlayıp işleyen öğretmen adayları için)

1. Derste kullanılan M-MALL mobil uygulama hakkında ne düşünüyorsunuz?

Padlet uygulamasını warm-up bölümünde öğrencilere kelime öğretimi yapmak amacıyla kullandım. Kelimeleri görselleriyle göstermek, öğrencilerde kalıcı öğrenme sağladığını düşünüyorum. Hem de kâğıt ve zaman israfının önüne geçmek için kullanışlı bir uygulama. Daha önceki ders anlatımlarımda kelime tekrarı yapmak amacıyla kullanmıştım. Bu sefer kelime öğretimi yapmak amacıyla kullanmayı tercih ettim. Bu gibi amaçlarla Padlet uygulamasını öğretmen olduğumda da tercih edeceğimi düşünüyorum. İlk saat ders anlattığım için sınıfta teknik bir problem yaşadık. Akıllı tahta açılmadı ve 10-15 dakika derse geç başlamak zorunda kaldım. Bazı aktiviteleri atlamama rağmen flipgrid uygulamasını kullanmaya vakit kalmadı ve ders süresi bitti. Vaktim olsa ve kullanabilseydim sınıf içinde etkili ve çocuklar için faydalı bir etkinlik/ uygulama olacaktı.

2. Kullandığınız M-MALL mobil uygulamanın ders planına (İngilizce Öğretimine) entegrasyonu hakkında ne düşünüyorsunuz?

Padlet uygulamasını hep kelime öğretimi veya tekrarı konusunda kullandım. Bu sebeple bu açıdan kullanışlı ve faydalı olduğunu düşünüyorum. Diğer beceriler için nasıl entegre edilebilir bu konuda bir fikrim yok ancak konuya uygun uyarlanabilir bir uygulama olduğunu düşünüyorum. Flipgrid, konuşma becerisi için oldukça uygun bir uygulama ancak zaman yönetiminin iyi olması gerekiyor. Bizim gibi tek bir ders için değil de, en az 2 ders içinde uygulanması hem çocuklar için hem de biz öğretmenler için daha uygun olacaktır.

3. Seçtiğiniz uygulamayı kullanırken ders esnasında kendinizi nasıl hissettiniz?

Derse geç başladığım için etkinliklerin yetişmesi konusunda tedirginliklerim vardı ve follow-up aktivitem olan Flipgrid yetişmedi. Bu sebeple üzgünlük duydum diyebilirim. Ödev görevlendirmesi olarak versem de öğrenciler evlerine gittiğinde yapmadılar ve bu ders için faydalı bir uygulama olamadı. Padlet, her öğretmenin kullanması gereken pratik bir uygulama. Hazırlık aşaması da kolay olduğu için tercih edilmesini tavsiye edebileceğim bir uygulama. Kullanımı rahat ve öğrenciler açısından da görsellerin olması dikkat çekici. Bu sebeple hem öğretmen hem de öğrenci için motive edici bir uygulamadır.

4. Dersinizi hazırlama sürecinde seçtiğiniz uygulama ile ilgili karşılaştığınız bir sorun oldu mu? Evet, ise, belirtiniz.

Hayır, hazırlık aşamasında bir problemle karşılaşmadım ancak uygulama noktasında yetişmediği için problem oldu diyebilirim.

Reflective Diaries of PSTs for their Peers' Lessons

PST-Z' reflection for X's first week's lesson:

Adınız Soyadınız:
Dersi anlatan arkadaşınızın adı soyadı?
Arkadaşınızın kaçıncı dersi? I. Ders
Dersi dinlediğiniz tarih: 11.04.2019
Kullanılan M-MALL uygulaması: Flipgrid

Yansıtıcı Günlükler İçin Yönlendirme Soruları:
(Çokmodlu Mobil Destekli Dil Eğitimi ile hazırlanmış ders dinleyip gözlem yapan öğretmen adayları için)

1. Arkadaşınızın kullandığı M-MALL mobil uygulama hakkında ne düşünüyorsunuz?
Flipgrid uygulaması öğrencilerin düşüncelerini kendi videolarını çekerek paylaşmasına fırsat verir. Böylece öğrenciler hem birbiriyle etkileşim halinde oluyor hem de düşüncelerini istedikleri gibi aktarabiliyorlar. Öğrendikleri yabancı dili uygulama aracılığıyla aktif bir şekilde kullanmalarına olanak sağlıyor. Ders süresince öğretmen-öğrenci arasındaki etkileşim oldukça aktif bir şekilde gerçekleşiyor.

2. İzlediğiniz dersin işleyiş açısından M-MALL mobil uygulamasının etkisini nasıl değerlendirirsiniz?
Öğrenciler videolarını çekme konusunda çok istekli bir tutum sergilemediler. Arkadaşımın uygulamayı nasıl kullanması gerektiği konusunda örnekle göstermesine rağmen öğrenciler farklı videolar çekme girişiminde bulundular.

3. İzlediğiniz dersi siz işliyor olsanız M-MALL mobil uygulamayı nasıl kullanırdınız?
Arkadaşım Flipgrid uygulamasını kullanarak aktiviteyi sıradan bir halden çıkardı ve konuşma aktivitesi haline getirerek öğrencilerin dili kullanmalarına fırsat vermeye çalıştı. Bende eğer dersi işleseydim bu şekilde bir uygulama kullanırdım.

4. Arkadaşınız seçtiği M-MALL mobil uygulamayı kullanırken ders esnasında siz neler hissettiniz?

Arkadaşım flipgrid uygulamasını örnekle birlikte öğrencilere açıkladı; ancak öğrenciler arkadaşımın video çekmeye teşvik etmesine rağmen video çekmeme konusunda ısrarcı oldular. Video çeken bazı öğrenciler ise ders dışında şeyler yapmaya çalıştılar. Bu durumda hem arkadaşımı hem de beni negatif olarak etkiledi.

PST-Z' reflection for X's last week's lesson:

Adınız Soyadınız:
Dersi anlatan arkadaşınızın adı soyadı?
Arkadaşınızın kaçıncı dersi? 4
Dersi dinlediğiniz tarih: 02/05/2019
Kullanılan M-MALL uygulaması: Cram

Yansıtıcı Günlükler İçin Yönlendirme Soruları:
(Çokmodlu Mobil Destekli Dil Eğitimi ile hazırlanmış ders dinleyip gözlem yapan öğretmen adayları için)

1. Arkadaşınızın kullandığı M-MALL mobil uygulama hakkında ne düşünüyorsunuz?
Cram aracılığıyla hem kelime kartları oluşturabiliyor hem de konunun pekişmesi için eşleştirme oyunu hazırlayabiliyorsunuz. Her yaş grubunda çeşitli şekillerde kullanılabilecek çok yönlü bir uygulama.

2. İzlediğiniz dersin işleyiş açısından M-MALL mobil uygulamasının etkisini nasıl değerlendirirsiniz?
Arkadaşım dersin tüm aşamalarını tamamladıktan sonra konunun pekişmesini sağlamak amacıyla bu uygulamayı kullandı ve oldukça başarılı oldu. Çünkü öğrenciler uygulamayı gördükten sonra oldukça heyecanlandı ve bir an önce aktiviteyi yapmak istediler. Bu sayede öğrencilerin güdülenmesi ve merak duygusu arttırılarak konunun kalıcı bir şekilde pekişmesi sağlandı. Uygulama sayesinde hem öğrenciler sosyal açıdan bir doyum noktasına ulaştı hem de öğretimin kalıcılığı arttı.

3. İzlediğiniz dersi siz işliyor olsanız M-MALL mobil uygulamayı nasıl kullanırdınız?
Bende bu uygulamayı aynı aktiviteler üzerinde kullanırdım.

4. Arkadaşınız seçtiği M-MALL mobil uygulamayı kullanırken ders esnasında siz neler hissettiniz?

Öğrencilerin istekli ve sabırsız davranışları karşısında oldukça mutlu oldum ve bu uygulamayı kullanmaya karşı oldukça istekliyim.

PST-W' reflection for Y's first week's lesson:

Adınız Soyadınız:
Dersi anlatan arkadaşınızın adı soyadı?
Arkadaşınızın kaçıncı dersi? 1.dersi
Dersi dinlediğiniz tarih: 21 Mart 2019
Kullanılan M-MALL uygulaması: 1)HP Reveal, 2)Kahoot

Yansıtıcı Günlükler İçin Yönlendirme Soruları:

(Çokmodlu Mobil Destekli Dil Eğitimi ile hazırlanmış ders dinleyip gözlem yapan öğretmen adayları için)

1. Arkadaşınızın kullandığı M-MALL mobil uygulama hakkında ne düşünüyorsunuz?

Arkadaşım iki tane M-MALL uygulaması kullandı. İlki HP Reveal uygulamasıydı. Uygulama sayesinde öğrenciler konularını daha iyi anladıklarını düşünüyorum (konuları "reported speech" idi). Bazı öğrencilerde yüklenen video açılmadı ve izleyemediler ve öğretmen arkadaşlarıyla beraber izleyebileceklerini söyledi. Diğer uygulama ise Kahoot idi. Follow up kısmın da bu uygulamayı kullandı öğretmen ve öğrencileri gözlemlediğimde gerçekten eğlendiklerini gördüm. Kahoot biraz daha yarışma şeklinde olunca öğrenciler birbirleriyle yarışmaya çalıştı ve bu güzel oldu.

2. İzlediğiniz dersin işleyiş açısından M-MALL mobil uygulamasının etkisini nasıl değerlendirirsiniz?

HP Reveal uygulaması gayet güzel ve yerinde bir uygulama oldu. Öğretmen reported speech konusunu anlattıktan sonra kitaptaki istenen sayfayı okuttuktan sonra videoyu

izlediler ve bu sayede konu pekişmiş oldu. HP Reveal uygulamasını main activity ‘de uygulaması güzeldi. Kahoot ise en son follow up kısmında hem öğrencileri eğlendirmek hem de tekrar etme açısından yerinde buldum uygulamayı.

3. İzlediğiniz dersi siz işliyor olsanız M-MALL mobil uygulamayı nasıl kullanırdınız?

Genel olarak dersi beğendim ve bende dersi böyle işlerdim. Yani konuyu anlatırdım ve HP Reveal ile beraber video izletirdim konuyla alakalı. Öğrencilerin hem dikkatini çekti hem de o videonun artık hep kitaplarında bulunacağını öğrendiklerinde şaşırdılar ve sevindiler. Kahoot’u genelde follow up kısmında kullanıldığını gördüm bu zamana kadar. Arkadaşım da aynı şeklide follow up kısmın da uyguladı. Aslında böyle olması gerektiğini düşünüyorum çünkü öğrenciler ders işledikten sonra dikkatleri dağılıyor ve artık derse katılım olmuyor. Kahoot ile beraber dersin sonunda hem bir genel tekrar gibi olmuş oluyor hem de öğrenciler eğleniyorlar.

4. Arkadaşınız seçtiği M-MALL mobil uygulamayı kullanırken ders esnasında siz neler hissettiniz?

Arkadaşım iki tane uygulama kullandı dersinde. Her ikisini de öğrencilere tanıtırken açıklayıcı oldu. Yani öğrenciler hemen anladılar ve kullanma da sıkıntı olmadı. Özellikle Kahoot uygulamasında öğrencileri daha heyecanlı ve istekli gördüm. Sanırım birinci olmak için yarıştılar ve bu beni mutlu etti. Yani arkadaşım kadar bende mutlu ve heyecanlıydım.

PST-W’ reflection for Y’s last week’s lesson:

Adınız Soyadınız:
Dersi anlatan arkadaşınızın adı soyadı?
Arkadaşınızın kaçıncı dersi? 5.anlatım
Dersi dinlediğiniz tarih: 29.04.2019
Kullanılan M-MALL uygulaması: Flipgrid

Yansıtıcı Günlükler İçin Yönlendirme Soruları:

(Çokmodlu Mobil Destekli Dil Eğitimi ile hazırlanmış ders dinleyip gözlem yapan öğretmen adayları için)

1. Arkadaşınızın kullandığı M-MALL mobil uygulama hakkında ne düşünüyorsunuz?

Arkadaşım bu ders anlatımında Flipgrid uygulamasını kullandı. Daha önce ki ders anlatımımda bende kullanmıştım. Bu yüzden bu uygulamayı biliyor ve seviyorum çünkü hazırlaması da uygulaması da kolay.

2. İzlediğiniz dersin işleyiş açısından M-MALL mobil uygulamasının etkisini nasıl değerlendirirsiniz?

Flipgrid uygulaması genelde listening ve speaking becerilerinde kullanabileceğimiz bir uygulamadır. Genel olarak gözlemlediğimde öğrenciler Flipgrid uygulamasını seviyorlar ve telefonu olan neredeyse her öğrenci katılmak istiyor bu derse. Bu yüzden Flipgrid uygulamasının derse etkisi genelde olumlu oluyor.

3. İzlediğiniz dersi siz işliyor olsanız M-MALL mobil uygulamayı nasıl kullanırdınız?

Bu dersi ben işlemiş olsaydım bende Flipgrid veya Recap uygulamasını kullanırdım. Çünkü arkadaşımın dersi speaking ve listening üzerineydi ve bu becerilere en uygun Flipgrid veya Recap uygulaması olurdu diye düşünüyorum.

4. Arkadaşınız seçtiği M-MALL mobil uygulamayı kullanırken ders esnasında siz neler hissettiniz?

Arkadaşım dersini ilk saat anlattığı için biraz zaman kaybına uğradı. Hem akıllı tahta geç açıldı hem de kullanılan ders kitabı akıllı tahta yokmuş, onu indirdik. Sonuç olarak arkadaşım biraz geç başlamak zorunda kaldı derse. Fakat arkadaşım dersini çok iyi işledi ve bence daha fazla süresi olsaydı Flipgrid uygulamasına daha fazla zaman ayırabilirdi.

Appendix-10: Semi-Structured Focus-Group Interview Questions

Turkish:

1. M-MALL mobil uygulamaların İngilizce dersinde kullanılması hakkında genel olarak ne düşünüyorsunuz? Daha başka açıklar mısınız?
   1a. Bu olumlu/olumsuz görüşlerinizin sebepleri nelerdir? Lütfen açıklayınız.
   1b. M-MALL mobil uygulamaların İngilizce dersine entegrasyonu nasıl olmalıdır?
2. M-MALL mobil uygulamaları içeren ders planlarınızı hazırlama aşaması sizin için nasıl geçti? Açıklayınız.
3. M-MALL mobil uygulamaları ile hazırlamış olduğunuz ders planlarının Öğretmenlik Uygulaması yaptığınız okullarda uygulama aşaması sizin için nasıl geçti? Açıklayınız.
4. Mezun olduğunuzda derslerinizde M-MALL mobil uygulamalarını kullanmayı düşünüyor musunuz?

English:

1. What do you generally think about using M-MALL mobile applications in English lessons? Can you explain further?
   a. What are the reasons for your positive / negative opinions? Please explain.
   b. How should M-MALL mobile applications be integrated into English lessons?
2. How was the preparation phase of your lesson plans including M-MALL mobile applications? Explain.
3. How was the implementation phase of the lesson plans you prepared with M-MALL mobile applications in the schools where you went for Teaching Practice? Explain.
4. When you graduate, do you plan to use M-MALL mobile applications in your lessons?

Appendix-11: Sample Transcript of the Semi-Structured Focus Group Interview

Researcher: Mobil uygulamaların İngilizce ders ve kullanılması olarak kullanılmasında genel olarak ne düşünüyorsunuz ayrıntılı bir şekilde açıklayınız Biraz düşünmek isteyebilirsiniz belki.

PST-1: Çok iyi bir öğrenci profili ile karşılaşmadık öğrencilerin düzeyleri vasat seviyeydi. Belki bazılarının masasında altındaydı öyle adlandırmak doğru mu bilmiyorum ama O yüzden başlarken açıkçası biraz endişeli başladık acaba nasıl Entegre edeceği Entegre ettiğimizde gerçekten çocuklar bunu buna adapte olabilecek mi gibi sorularla başladık ilk hafta Tabii ki bazı sıkıntılar yaşadık Bunlar da rutin sıkıntılardı. işte internet bağlantısı çocukların telefonu olmaması gibi sıkıntılardı sonrasında ilerleyen süreçte gördük ki öğrencinin düzeyi ne olursa olsun doğru M-MALL uygulaması entegre edildiği sürece başarılı sonuçlar verdi. Bunu nasıl anlayabildik. Hiç katılmayan öğrencinin de derse katıldığını gördüm bir şeyler yapmak için çabaladığını gördük. 4 haftalık süreçte bunu rahatlıkla gözlemleyebildik Onun haricinde M-MALL mobil uygulamalarıyla çocukların ben sadece ders anlamında veriminin olumlu yönde etkilenmesinin yanı sıra sosyal doyuma ulaştıklarını düşünüyorum Çünkü öğrenci alışılagelmiş bir şekilde kitaptan yaptığı etkinlikler doğrultusunda almış olduğu pekiştireçler çok artık onlar için sıradan pekiştireçler haline gelmiş. Ama kendi bireysel telefonları üzerinden bu etkinliği başardıklarında farklı bir uygulama içerisinde aynı zamanda bunu başardıklarında ve dönüşünde verdiğimiz bu pekiştireçler onları ciddi anlamda güdüledi. Yani öğrenci bir şeyi bilmiyorsa da bizden fikir alarak arkadaşlarıyla bir şeyler konuşarak tartışarak bir şeyler yazmak için orada bir şey üretmek için çaba gösterdi. Biz bunu gözlemledik. 4 hafta boyunca da dediğim gibi doğru uygulamalar doğru aktiviteye Entegre edildiğinde hem öğrencinin dersleri verimini arttırmada Hem de sosyal doyuma ulaşmasında bence oldukça etkili oldu

…

PST-2: Ben Fen Lisesinde girdim derslere. Bu yüzden M-MALL kullanımı açısından bir sıkıntım olmadı. İngilizce açısından da pek bir sıkıntımız olmadı öğrenci profilinden dolayı. M-MALL aktivitelerinin öğrencilerin bilmediği konularda öğrencilere bilgiyi vererek onların ilgisini çekmek ve o konuda bilgiyi aldıktan sonra İngilizceyi daha kolay öğrendiklerini düşünüyorum. Onun dışında öğrencinin speaking yani konuşmada

çekimser olmalarını, M-MALL'da da aynı şekilde gözlemledim. O yüzden orada yine pek bir çözüm olduğunu düşünmüyorum M-MALL'un. *Recap* olsun Flipgrid olsun öğrenciler yine konuşurken çekimser davranıyorlar.

…

PST-1: Genel anlamda öğrenci profiline baktığımız zaman, hangi okul veya hangi düzeyde olursa olsun bence öğrenciler genelde bir şeyler üretmen için çekimseler. Hani bunları da bu uygulamalar üzerinden önce ilgilerini çekerek yapmaya başlarsak üretme konusunda da ön yargılarının kırılacağını düşünüyorum. Çünkü yani kimse bu zamana kadar böyle bir uygulama üstünden bir şeyler üretmesini özellikle de yabancı dil konusunda yeni şeyler ortaya koymasını istememiştir yüksek ihtimalle arkadaşlarımın okulunda da bizim okulda da aynı şekilde. O yüzden bu üretimin en azından, çünkü 30 kişilik bir sınıfı bile düşünsek muhakkak birisi üretime meraklı olmuş oluyor. O yaptığında da "ben de telefon kullanıyorum, ben neden yapmayayım" deyip bir güdülenme içerisine giriyor. Yani bu gerçekten kaçınılmaz bir durum oluyor onlar için de. O yüzden bunun da o n yargıyı kırabileceğini düşünüyorum ben uygulamalarla.

PST-3: Hocam ben de XXX'de (Okul Adı) hazırlık sınıfına girdim. Bizim öğrencilerimizin seviyesi çok iyi olmasa da dinledikleri için kazanıyorlar. Çok saygılı bir sınıftaydık yani gayet sessizlerdi asla dersimizi engellemediler. İlk başta uygulamalarda ben de korktum çünkü ben teknoloji konusunda çok iyi değilim hani nasıl yaparım acaba uygulayabilir miyim diye. İlk hafta *Edpuzzle* ile başladım. Öğrencilere yavaş yavaş anlattım. Onlara anlatırken kendim bir daha anlamaya çalıştım. Hani, bir şey sorarlarsa bir sıkıntı yaşamayayım diye. Ve bir kerede anladılar. Sıkıntı çekmedik. İlk başta biz kendi internetimizi paylaşırken, sonlara doğru öğrencilerin kendi internetlerini açtıklarını görüyoruz. Hani şey olmuştu mesela ilk hafta biz açtık ki o zaman bile istekli değilken, son hafta *Canva* özellikle, *Canva* bizimkilerin baya ilgisini çekti. O uygulamada kendi internetlerini açıp bir an önce yapıp göndermek istiyorlar. Yani kendileri artık şey yapıyorlar, keyif alıyorlar bundan ve bu küçük bir şey aslında ama biz de motive ediyor, çünkü öğrenci keyif alıyor bizim dersimizden. Ve bu çok güzel oldu.

Researcher: *Canva'yı* pek çok öğrenci de kullandı gözlemlediğim kadarıyla. Ben aldığım notlarla devam edeyim. Öğrencilerin seviyeleri ne derece önemli mesela burada

böyle bir şey çıktı. Hepinizden çıktı. Öğrencilerin seviyesi ne derece önemli diye düşünüyorsunuz bu uygulamaları kullanmada? Ya da PST-1 çok da önemli olmadığı kanısına vardı. Sizler ne düşünüyorsunuz?

PST-4: Bence önemli. Ben son hafta *Edmodo* yaptım. Writing üzerinden. Ve öğrendim ki o sınıfta writing de birazcık sıkıntıları var. Kelime biliyorlar ama gramer hiç yok. Seviyelerini bilmiyordum. Hocaya sormuştum, hangi grameri öğretmiştiniz hangi grameri biliyorlar diye. *Edmodo'yu* yapamadılar. Bir veya iki kişi gönderebildi. Onu ödev olarak verdim. Fakat ödev olarak da bir kişi sadece dönüş yaptı. Herkesten şunu duydum: hocam biz yazamıyoruz. Belki bu seviyeden dolayı da olabilir. Çünkü çocuklar wrting, hani çok yazamıyor olabilirler. Bunun için ben önemli diye düşünüyorum.
…

Researcher: Peki bireysek telefon kullanımı, yani genel olarak kaç kişinin telefonu vardı? Herkes katıldı mı? Bu ne derece önemliydi? Önemli miydi? Ne derecede bir etki yarattı sizin derslerinize?

PST-3: Hocam ben şöyle bir sıkıntı yaşamıştım ilk başta. İlk zamanlarda kullanıyorum uygulamayı, bakıyorum sosyal medyadalar. Ki sonra tepkimi ben gösterince danışman hocamız da öğrencilerin benden korktuğunu söylüyor hani o yüzden benim dersimde çok şey olmadı ben dersimde sınıf içerisinde dolaşırken de o uygulamaya girmelerini sağladım onların. Yani nasıl diyeyim. İlk başta bunu yapmaya çalıştılar ama yapamadıklarında ders yöneldiler ve gerecekten keyif aldılar. Sadece onları bir güdülemek lazım. Hani şey yazıyoruz ders planlarımıza ya "öğrenci aktiviteye katıldığında ne kadar eğlenceli olacağını gösterebilmek". Bunu gösterdiğimizde dersimiz gerçekten güzel oluyor. Bazen zor olabiliyor internet bağlantısında. Hemen bir şey yapmamız lazım "arkadaşınla kullanabilirsin".

PST-1: Bizde ilk başta şey oldu hocam. İlk katılım az oldu. "Hocam telefonum yok, internetim yok" gibi bahaneler oldu. Sonrasında katılanların zevk aldığını gördükçe diğer haftalarda artık yüzde 75 oranında herkes bireysel telefonuyla katılım gösterdi.

Annesininkini getirdi mesela. Babasınınkini getiren oldu. Böyle şeyler görünce ilk haftanın tedirginliğini sonraki haftalarda attılar bence.

PST-2: Ben bireysel telefon kullanımında çok sıkıntı olduğunu düşünmüyorum. Daha ziyade grup olarak arkadaşıyla çalışmasının daha iyi olduğunu düşünüyorum. Çünkü birbirinden genelde baya şey öğreniyorlar. Bizden öğrendiklerinden daha çok, arkadaşından daha iyi öğrendiğini düşünüyorum. O yüzden bireysel kullanmalarına gerek olduğunu düşünmüyorum.

…

Researcher: Peki, internet bağlantısı dediniz. İnternet bağlantısı hakkında ne düşünüyorsunuz? İnternet kullanımı nasıldı?

PST-2: Şimdi hocam biz paylaşsak bile (kendi internetimizi), Android'i bilmiyorum ama İOS'ta beş kişiye kadar bağlanılabiliyor. O yüzen biraz, kimin dersi olduğunu hatırlamıyorum, daha fazla öğrenci bağlanmak istiyor ama beşle sınırlı olduğu için bağlanamadılar. Yani onlarla öğrencilere internet erişiminin sağlanması wi-fi amaçlı olabilir ama işte Türkiye şartlarında öğrenci profilini de düşünürsek, biraz sıkıntılı durumlar olabilir.

Researcher: Ne gibi sıkıntılı durumlar olabilir?

PST-2: Yani öğrencilerin derslerde telefon kullanılmasına bile izin verilmiyor, genellikle dolaplara konuluyor çünkü biz millet olarak derslerde böyle telefonla oynamaya filan, yani amaç dışında oynamaya…

PST-1: Ama belki o da şeyle engellenebilir, okullarda Wi-Fi bağlantısı olur ama *Whatsapp* erişimine, *Youtube* sosyal medya sitelere erişme kapatılabilir.

Zafer: ama bunun için de bir çözüm var VPN indirip girebilir. Yani IP değiştirme.

PST-4: Hocam ben akıllı tahtadan birazcık bir şeyler söylemek istiyorum, çünkü birkaç tane uygulamamız açılmadı. Çünkü mesela *Youtube, Whatsapp* vs. açılmıyor. Sosyal Medya şeylerini açmıyor. *Padlet'im* açılmadı. Çünkü indirdiğim sitelerden dolayı erişim engeli olduğu için, *Youtube* dan videolar açılmadı ama kendi internetimiz bağlanırsa

sanırım açılıyormuş ama bizde kendi internetimizi de bağlayamamıştık. O yüzden bence her şey akıllı tahtada vs. sorun olabiliyor hocam. Bu çok büyük bir sorun.

Researcher: Peki akıllı tahtadan illaki o uygulamayı açmak gerekiyor mu?

PST-4: Hocam genellikle görsellik için, video izletmek içindi ama onu da artık onun için de çözüm olarak kendi internetimi çocuklarla paylaşabilirim, öğrencilere ve onlar direkt youtubedan girip izleyebilirler.

…

Researcher: Peki, kendi M-MALL kullanımı konusunda nasıl hissediyorsunuz?

PST-1: Ben havalı hissediyorum. Diğer öğretmenlerden farklı bir şey ortaya koyduğum için beni güdülüyor açıkçası. Öğrenciyi de güdüleme ihtiyacı hissediyorum. Yani çünkü farklı bir şey yapıyoruz, o yüzden farklı hissediyorum düğer öğretmenlerden çünkü bu şekilde de tepkiler aldık biz diğer branşlardan. Türkçe öğretmeninden, coğrafya öğretmeninden. Mesela bir matematik öğretmeni vardı hocam sadece İngilizce için değil yani bu uygulamalar siz de belki kendi dersleriniz için kullanabilirsiniz dediğimde "ya evet aslında olabilir hiç düşünmemiştim" dedi. Ona da faydam olduğunu düşünüyorum. Yani böyle bir şeye girmiştik o yüzden, şey oluyor yani. Hem okulda öğretmenler açısında hem de öğrenciler açısından böyle daha farklı bir konuma gelmiş oluyorsunuz.

PST-4: Hocam bir de şey, öğrencilerin gözünde de çok eğlenceli bir öğretmen olarak görünüyoruz. Şimdi şöyle söyleyeyim. Biz 11lere 11 c ve 11 d ye giriyorduk derslere Perşembe günleri ve sürekli M-MALL mobil uygulamaları kullanıyorduk. VE bir gün 11a'lardan sanırım bizim Yasemin hocamıza şikâyet gelmiş. Şey anlamında "Hocam bize neden girmiyorlar stajyer öğretmenlerimiz, biz de o oyunlardan uygulamalardan oynamak istiyoruz, biz de telefonlarımızı kullanmak istiyoruz derste" demişler. Yasemin hoca bize "pazartesi günü gelin 11a'lara girin onlar da görsünler çok istiyorlar sizi ve yaptığınız şeyleri görmek istiyorlar derste" diye. Ve gittiğimizde ben de çok eğlendim, öğrencilerin de çok eğlendiğini gördüm. Çünkü "hocam bir daha gelecek misiniz? Haftaya bizimle misiniz?" dediler. Böyle demeleri beni çok mutlu etti.

…

PST-3: ilk başta korkmuştum ama sonrasında baktım anlatabiliyorum. Baktığımda biliyorum ne yapacaklarını ki öğrenciler de pür dikkat dinlediği için zaten hiç sıkıntı yaşamadım. Gerçekten öğrenciler o kadar iyiydi ki. Baya bir bağ kurdum ben onlarla.

PST-2: Ben çocukluğumdan beri böyle teknoloji ile iç içe olduğumdan pek bir kaygım olmadı başlarda. Öğrencilerin de zaten teknoloji çağlarında doğduklarını düşünerek pek bir sorun yaşayacaklarını düşünmedim. Ki çok daha iyi kullanıyorlar bizden genel olarak. O yüzden bir sorun yaşamadım.

PST-3: Zaten hocam *Edpuzzle'ı* PST-2 birinci dersinde kullanmıştı. Ben biliyordum zaten PST-2 başarılı olacağını çok iyi anlatacağını. Dedim ben Zafer izleyeyim ilk drive a yüklüyorduk ya hep beraber. Oradan Zaferi izledim. Kendim yönlerdim birazcık.

Researcher: Sınıf hâkimiyetiniz nasıldı? Bunun hakkında ne söyleyebilirsiniz?

PST-1: Ben bir sıkıntı yaşamadım hocam 4 hafta boyunca. Tabi muhakkak kopukluklar yaşadık öğrenciler böyle şey yaparken, bilemediği anlarda bir konuşma bir muhabbet ortamı da oldu ama bunlar müdahale edildi veya ben yardımcı oldum. Bilen arkadaşı bilmeyene gösterdi. Yani büyük sıkıntılar yaşamadı sınıf kontrolünde.

PST-2: Benim bir tane öğrencim vardı hocam siz de vardınız. Öğrenci zaten biraz sorunlu bir öğrenciydi. Dokuzuncu sınıflarda siz de vardınız. M-MALL da video çekerken isteneni vermiş ama başta böyle saçmalamış, değişik şeyler söylemiş. Ben de çocuğa biraz tepki göstermiştim. Bir o vardı. Onun dışında da bir sıkıntı olmadı. Ama çocuk zaten olaylara falan karışmış zaten biraz problemliymiş. Bir tane arkadaşımızın dersinde oldu. Biraz böyle hafiften küfür içerikli şey vardı, tahtaya yansıdı ve bunun nedeni de *Padlet'te* giriş yaparken bir mail adresi ile ya da *Facebook'la* olsun bir sosyal hesap aracıyla giriş yapmak yerine anonim olarak giriş yapmaya izin vermeden bir olay. Çocuk oraya "anonim nasıl olsa, gözükmeyeceğim" diye gönderiyor. Yani bu da dikkat edilmesi gereken bir konu diye düşünüyorum.

…

Researcher: M-MALL uygulamaları içeren ders planlarınızı hazırlama aşaması sizin için nasıl gitmişti?

PST-3: Hocam benim için çok zorlu bir süreçti o. Hani şey yapıyorum mesela. Ben şey yapamadım mesela, uygun aktiviteyi seçemiyorum. Bana uygun geliyor aslında ben onu aktarıyorum ama aynı şeyi aktarıyormuşum. Yani ben öğrencinin kitapta çok basitçe yapabileceği bir şeyi ben alıp taşıyormuşum. İlk başta böyle düşünüyormuşum. Sonrasında baya derin düşünmem lazım yani bu konuda, mesela arkadaşım 1 dakikada bulabiliyorsa onun nasıl olabileceğini benim 5 dakika düşünmem gerekiyor. Nasıl yapabilirim diye. Acaba diyorum amaç doğru mu? Mesela sizinle de paylaşmıştım. Hocam ben öğrencinin tekrar yapmasını istiyorum burada ama bunu ders planına yazmayı akıl edemiyorum ben. Hani, genel bir ders planı hazırladım ama bu kafamdaki düşünceleri yazmayı akıl edemedim. O yüzden zorluk yaşadım, yoksa sonradan düzelttim ders planlarımı oldu.

Researcher: Yani bunun sebebinin ne olduğunu düşünüyorsun?

PST-3: İşte derin düşünemiyorum, o an şey yazamıyorum hani asıl amacımı oraya aktaramıyorum. Bu benle ilgili bir problem. Ben aslında, öğrencinin mesela tekrar etmesini konuşmasını pekiştirmesini istiyorum ama oraya sadece klişeleşmiş cümleler yazıyorum.

Researcher: Hmm ders planının yazım aşamasında yaşıyorsun bu problemleri. (Gamze: evet). Aktivite bulma konusunda, sanırım ondan bahsettin bir de. Uygun aktivite bulma konusunda.

PST-3: Evet, mesela bu bana uygun geliyor ben bunu aktarayım (M-MALL'a) hayır aslında aynı şeyi zorlaştırıyorum. Hani öğrenci bunu kalemle kâğıtla çok basit iki dakikada yapacak ve ben diğer aktivitede çok daha güzel bir M-MALL uygulaması kullanabilirim ama bunu fark edememişim ilk başta. Sonra arkadaşımdan yarım aldım, sonra oldu.

PST-4: Hocam ben ilk bir iki hafta zorlandım. Ama o da işte hangi uygulamayı kullanmam gerektiği açısındandı. Çünkü bizim 11. Sınıfların kitabı çok iyiydi. Gerçekten çok iyiydi. Hani resimleri içeriyordu. İşte dinleme metinlerini veriyordu her şeyi veriyordu hocam yani bize hiç uygulamaya koyabileceğim bir şey yoktu ve genelde

11. sınıflara anlatıyorduk ve o kitaptan dışarı çıkamıyorduk, yani müfredattan dışarı. O yüzden biraz zorlandım ama gerçekten iyi etkinliklere iyi uygulamalar denk gelince oluyormuş yani.

…

Researcher: Mezun olduğunuzda derslerinizde M-MALL mobil uygulamalarını kullanmayı düşünüyor musunuz?

PST-2: İsteriz tabi hocam ama elbet atanırsak büyük ihtimalle doğu tarafı ve yüksek bir ihtimalle orta veya ilkokula denk geliyor. Oralarda da yaş küçük olduğundan telefon işi biraz sıkıntılı.

Ben: evet tabi bu atamaya bakıyor, peki diyelim ki liseye atandınız.

PST-4: Hocam bir de şöyle bir şey var illaki akıllı tahta vardı okullarda, illa telefonları olmayabilir ama *Cram'i* tahtada veya ben *Explain Everything* kullandım, telefon kullanmadı çocuklar, tahtaya geldiler yerleştirdiler yazdılar, ayni akıllı tahta varsa okulda bence birkaç tane uygulama kullanabiliriz.

Researcher: yani mobil uygulama şeklinde değil?

PST-1: Eğer imkânlar ve çalıştığımız yaş grupları bireysel telefon kullanımına elverirse ben kullanmak isterim.

PST-2: Bir de bunları sürekli kullandığımızda yani sınıf listesi oluşturuluyor onlar oraya aktarılıyor. Ondan sonra daha böyle daha verimli bir süreç geçirilebilir bence. Hani biz 4 hafta filan gördük. Ama bir sınıfa sürekli yaptırdığımızda bir sınıf oluşturduğumuzda ödevlerini oradan izlediğimizde, (Merve: yani daha doğrusu çocuklar bu sisteme alıştığında artık en başından)…

Researcher: Siz onu gözlemlediniz mi? Mesela bir uygulama bir grupta ilk defa yapıldı ondan sonra bir 3. 4. Defa yapıldığında öğrenciler arasında herhangi bir fark gözlemlediniz mi bu kullanım açısından?

PST-2: Yani daha hızlı oluyor, daha hızlı yapıyorlar. Anlatma açısından pek bir sıkıntı yaşamıyoruz. Genelde bu şekilde oluyor.

PST-3: Ben biraz da hayalperest bir insanım. Mesela bu uygulamadan sonra atandığımı hayal ediyorum mesela diyorum ki ya Doğudaki çocukları da imkân olursa ben tanıştırmak isterim. Mesela basit uygulamaları ilkokul ortaokul yani kendi telefonumdan mesela, sınıf mevcudu kalabalık olacak belki ama yapabildiğim kadar yapmak isterim. Lisedeyken ilk tanışma aşamasında mesela öğrenci senin farklı bir öğretmen olduğunu hissederse hani şey olacak yani, alışacaklar ve bu daha iyi bir ilerleyiş sağlayacak diye düşünüyorum. Hem de kendim de gelişeceğim, inşallah.

…

Researcher: Son olarak eklemek isteyeceğiniz bir şey var mı?

PST-3: Hocam bir de şey, öğrencilerin yaratıcılıklarını gerçekten fark ediyoruz biz bu uygulamalarla mesela benim hiç beklemediğim bir öğrenci, ben motto istedim. O kadar güzel yazmış ki, hazırlamış falan *Canva'da*, dedim maşallah dedim sende de ne cevherler varmış öğrenciye. Hani çok sessiz duruyor ama o gün baya keyifliydi sanırım katıldı falan, yapmış beni baya etkiledi yani. Katılması da hoşuma gitti, böyle bir ürün çıkarması da hoşuma gitti.

PST-1: Bizde de öyle örnekler oldu, yani mentör hocamız söyledi mesela, derse katılmıyordu ama sizin dersinize katılmaya çalıştı. Bir şeyler yapmaya çalıştı dedi. Tabi bizim de bu hoşumuza gitti. Sonuç olarak, muhakkak hocam teknik problemler, her girdiğimiz öğrenci profilinde muhakkak sıkıntılar yaşanabilir bu klasik bir ders yönteminde de klasik bir eğitim öğretim hayatında da yaşanabilecek sıkıntılar olabileceği için ben bu uygulamalarla gerçekten iyi şeyler yapılabileceğini farklı ürünler ortaya koyarak öğrencilerin her yönden olumlu etkilenebileceğini düşünüyorum. Aslında her aslında öğretmen olarak bizlerin elindeymiş, ben bunu gördüm yani şahsen. Öğretmen bir dersi gerçekten verimli hale getirebilir, öğretmen öğrencinin ilgisini çekebilir. Umutsuz öğretmen yok. Yani çok idealist başlıyorum belki ama her öğrencinin her başarıya ulaşabileceğini düşünüyorum açıkçası.

Researcher: Teşekkür ederim.

PST-1-2-3-4: Hocam biz teşekkür ederiz bizi bu uygulamalarla tanıştırdığınız için.

Appendix-12: The Code-Theme Relationship for PSTs' Perceptions on M-MALL training by Nvivo (The Final Version)

Nodes

Name	Files	References
Gains	16	79
Improving teaching Skills	15	41
Would help us prepared enjoyable learning	13	22
Would help us prepare more efficient lessons	12	18
Would make us teachers in demand	1	1
Being knowledgable on M-MALL integration	15	24
Guided on appropriate integration of mobile technologies	14	18
Knowledge gained would be usefull for a lilfe-time	3	5
Learned the ubiquitous nature of M-MALL	1	1
Being up-to-date	10	14
Would help us keep pace with tehcnology as our sts	8	9
Would help us keep up with the times	3	3
Would help us be open to improvement	2	2
Content	12	53
Materials	12	40
Content was detailed	8	10
In-class discussions were helpful in understanding M-MALL	7	9
Micro-teaching helped clarify M-MALL	7	8
Content was informative	5	6
Sample lesson plans--modelling were helpful in understanding M-MALL	4	4
Content was multimodal	2	2
Materials were clear	1	1
Process	8	13
Practice-based content helpful in understanding M-MALL	6	7
Content was presented in categories	3	3
Content was presented well-distrubted by week	2	2
Content was from easy to difficult	1	1
Feelings	6	7
PST feelings	4	4
Felt lucky to receive this training	2	2
Training was enjoyable	2	2
Views on trainer	2	3
Trainer was supportive	2	2
Trainer was enthusiastic	1	1

Appendix-13: The Code-Theme Relationship for PSTs' Perceptions on M-MALL integration by Nvivo (The Final Version)

Nodes

Name	Files	References
PSTs' Perceptions on the Integration of M-MALL into their School Experience Lessons	267	2160
contributions of M-MALL on EFL learners' learning	249	1040
positive attitudes towards English	201	486
enjoyment	159	287
motivation	107	169
breaks prejudices	19	23
social satisfaction	3	7
active participation	158	265
increased participation	130	190
interactivity	59	75
attention	116	181
M-MALL gets the attention of EFL learners	112	169
M-MALL increases curiosity among learners	7	7
M-MALL enables EFL learners to focus on the topic	4	5
creativity	42	69
M-MALL supports EFL learners' creativity	36	57
M-MALL supports EFL learners' self-expression	7	8
M-MALL increases EFL learners productivity	3	4
confidence	34	39
relaxed	21	23
confident	6	6
knowledge on technology	5	5
courage to do research	3	4
safe	1	1

Nodes

Name	Files	References
contributions of M-MALL on the lesson	184	395
effective	147	282
reinforces the subject	92	152
provides multimodality	70	83
provides diversification	25	26
provides ubiquity	20	21
suitable for evaluation	49	63
provides measurement and evaluation	49	63
economic	37	50
Zaman tasarrufu sağlıyor	30	32
Kağıt-kalem tasarrufu sağlıyor	10	10
Derse pratiklik katıyor	4	4
Her şeyin bir arada verilmesine olanak veriyor	4	4
effects of M-MALL on PSTs' feelings	214	345
positive feelings	203	298
negative feelings	40	47
prerequisites of M-MALL integration	150	236
appropriateness of the application	104	139
application's easiness	58	63
application's addressing multiple skills	30	36
accessibility to the application	27	30
rich functionality of the application	9	10
familiarity with the application	76	97
EFL learners' familiarity with the application	47	50
EFL learners' intertwining with technology	25	25
PSTs' experience with the application	10	14
EFL learners' class dynamics	3	5
PSTs' choice of a suitable application	1	3

Nodes

Name	Files	References
problems in M-MALL integration	74	144
technical problems	41	60
insufficient equipment	22	31
interface of the application	13	15
technical issues	11	14
student-related problems	23	45
low participation	21	34
undisciplined students	4	7
low language proficiency of EFL learners	4	4
school-related problems	31	39
insufficient time	30	37
crowded classroom	2	2

Appendix-14: The Original Turkish Versions of the Quotes

Perceptions Towards M-MALL Integration

The Quotations of Perceptions on Gains

- ***Sub-theme: Teaching Skills***

PST4: "Bu eğitim sayesinde ders işleyişimin monotonluk ve sıkıcılıktan uzak, eğlenceli ve hep aranan bir ders olacağını düşünüyorum."

"Thanks to this training, I think my lessons will be fun and always desired, away from monotony and boredom." (PST4)

PST10: "M-MALL mobil uygulama kullanımı ile işlenen derslerin geleneksel yaklaşımların aksine, öğrencileri merkeze alan ve onları ders esnasında sıkmadan, hem eğlenerek hem de öğrenerek derse aktif katılımını sağlayan bir süreç yaratacağını düşünüyorum."

"Unlike traditional approaches, lessons taught with the use of M-MALL mobile applications will create a process that puts EFL learners to the center and ensures their active participation in the lesson by learning and having fun without boring them during the lesson." (PST10)

PST14: "Çünkü çocuklar bazen İngilizceye önyargılı olabiliyorlar ve bizler öğretmen olarak çocukların bu önyargılarını yıkmamız için bu M-MALL mobil uygulama kullanım eğitimi bize çok yardımcı olacağını düşünüyorum."

"EFL learners can sometimes be biased towards English and I think that this M-MALL training will help us, as teachers, a lot to break these prejudices." (PST14)

PST1: "Tabii ki bu eğitimle beraber herhangi bir sınıfta öğrencilere dersi sevdirme konusunda işimize çok yarayacaktır."

"Of course, with this training, it will be very useful to make EFL learners like English lessons." (PST1)

PST4: "Öğrencilerin fikirlerini değiştirebilmek ve İngilizceyi gerçek hayatlarına kolayca entegre edebilmek için bu eğitim çok önemliydi."

"This training was very important for changing the EFL learners' minds and for easily integrating English into their real lives." (PST4)

PST8: "Öğretmen olarak düşündüğümüzde kitapta sadece boşluk doldurma, okuma, dinleme olarak sunulan bir alıştırmayı daha eğlenceli bir hale getirip öğrenciye sunabilir, daha verimli dersler işleyebiliriz."

"We can transfer a fill in the blank, reading or listening exercise presented in the textbook into a more enjoyable activity and present it to the EFL learner and can have more efficient lessons." (PST8)

PST7: "Günümüzde, teknoloji bize bilgiye hızlı erişim konusunda yardımcı olduğunu biliyoruz ve bu teknolojiyi yani bu imkânı derslerimizde de kullanmak hem çocukların derse olan tutumunu etkilerken hem de zamandan tasarruf etmemizi sağlar."

"Today, we know that technology helps us to access information quickly, and using this technology in our lessons allows us to save time while affecting (positively) the attitude of children towards the lesson." (PST7)

PST16: "Dil öğretiminde öğrencilerin çok modlu aktiviteler tarafından eğitilmesi gerektiğini düşünüyorum çünkü her öğrencinin öğrenme şekli farklı. Bazı öğrenciler görerek öğrenirken bazıları ise duyarak daha iyi öğreniyor. M-MALL eğitimi bize bunları bir arada sunma imkânı sağlayacak."

"In language teaching, I think students should be taught by multimodal activities because each student's learning style is different. Some students learn by seeing, others learn better by hearing. M-MALL training will provide us the opportunity to present them together." (PST16)

- ***Sub-theme: M-MALL Integration***

PST5: "Sekiz hafta boyunca aldığımız bu eğitim sürecinde M-MALL mobil uygulama kullanımını, bir uzman olarak, kullanılan uygulamaların amacını, nasıl seçildiğini, uygulamaya nasıl entegre edildiğini, bunun ilgili nasıl bir ders planı hazırlamam gerektiğini başarılı bir şekilde öğrendim."

"During this eight-week training period, I successfully learned the use of M-MALL mobile applications, the purpose of the applications used, how they were selected, how they were integrated into the activity, and how I should prepare a related lesson plan." (PST5)

PST10: "Teknoloji çağında olmamıza rağmen çoğu mobil uygulama hakkında bilgi sahibi değildim ve daha öncesinde birkaç uygulama haricinde diğerleri ile hiç karşılaşmamıştım. 8 hafta süren bu eğitim ile beraber özellikle İngilizce öğretiminde gerek dinleme ve okuma becerisi, gerekse yazma ve konuşma becerilerinde etkili olabilecek birçok uygulama ve bu uygulamaların kullanışı, İngilizce öğretimine entegre edilişi hakkında çok güzel bilgiler edindim. Ve süreç sonunda hangi aktiviteye hangi mobil uygulamayı kullanmam gerektiği, özellikle de öğrencide kazanımın gerçekleşmesini istediğim beceriye yönelik doğru seçimler yapabilecek eğitime sahip olmanın birer öğretmen adayı olarak çok önemli olduğunu düşünüyorum."

"Although we are in the age of technology, I did not know about most mobile applications and I had never encountered others (given sample applications in the current study) except for a few applications before. With this 8-week training, I have gained information about many applications that can be effective in listening and reading skills, as well as writing and speaking skills, especially in English teaching, and the use of these applications and their integration into English

teaching. And at the end of this process, I think it is very important as a teacher candidate to receive a training on how to choose an appropriate mobile application for an appropriate activity especially for the skill I want the EFL learner to gain." (PST10)

PST13: "Uyguladığımız tasklar ile çeşitli aktivitelerin M-MALL için uygun olup olmadığını tartıştık ve bu sayede mobil uygulamaları en etkili bir biçimde nasıl kullanabileceğimiz konusunda fikir sahibi olduk. M-MALL mobil uygulamaları nedir, nasıl etkili bir şekilde aktiviteye entegre edilir, öğrenci ve öğretmen için avantaj ve dezavantajları nelerdir, İngilizce öğretimine ne tür katkıları vardır gibi tüm detaylar tarafımıza net ve açık bir şekilde hocamız tarafından anlatıldı."

"We discussed whether various activities are suitable for M-MALL with the tasks we did, and thus we got an idea about how to use mobile applications in the most effective way. All details such as what M-MALL mobile applications are, how to integrate them into the activity effectively, what are the advantages and disadvantages for students and teachers and what kind of contributions they have to English teaching were explained to us clearly by our instructor (the researcher)." (PST13)

PST7: "İlk olarak, sekiz hafta boyunca yaptığımız eğitimler sonucunda öğrendiğim bilgilerin hayatım boyunca akademik olarak kullanacağım bilgiler olduğunu hatta bu bilgilere yeni teknoloji ve imkânlarla daha fazlasını ekleyebileceğimi düşünüyorum."

"First of all, I think I will use the information I have learned thanks to this training we have received for eight weeks is the information throughout my life, and that I can add more to this information with new technologies and opportunities (in future)." (PST7)

- ***Sub-theme: Being up-to-date***

PST6: "Bu eğitim bana teknoloji çağındaki öğrencilere de nasıl uyum sağlayabileceğimi öğretti."

"This training taught me how to adapt to EFL learners of the technology age." (PST6)

PST16: "Çağımız herkesin de bildiği gibi teknoloji çağı. Bu durumu göz önünde bulundurarak hala teknoloji içermeyen, sıradan, sıkıcı derslerin işlendiği sınıflarda öğretmen olmaktan bizi alıp teknolojiyle iç içe hem öğrencinin hem bizim zevk aldığımız ve bunu yaparken kendimizi ve öğrencileri çok daha iyi geliştirmemizi sağlayacak olan sınıflara götürecek bu eğitimin çok yararlı olduğunu düşünüyorum."

"Our age is the age of technology as everyone knows. Considering this situation, I think that this training is very beneficial in that it will take us from classrooms that still do not contain technology in which ordinary and boring lessons are taught, and put us into the classes that we both (with EFL learners) enjoy with technology. This will enable us to develop ourselves and our ELF learners much better." (PST16)

The Quotations of Perceptions on the content of training

- ***Sub-theme: Materials***

PST10: "Kullanılan materyallerinde en ince ayrıntısına kadar düşünülüp, bizler için daha anlaşılır ve faydalı bir eğitimin sağlanmasına zemin hazırlamış olduğunu söyleyebilirim."

"I can say that the materials used (in the training) were thought out to the finest detail and laid the groundwork for a more understandable and beneficial training for us." (PST10)

PST9: "Uygulamaların ardından verilen kitap aktivitelerinin bu uygulamalara aktarılıp aktarılamayacağını tartıştık. Bu, bize uygulamalar hakkında daha ayrıntılı bilgiler edinmemizi sağladı."

"We discussed whether the book activities can be transferred to M-MALL using the chosen applications. This allowed us to get more detailed information about the applications." (PST9)

PST12: "Genel olarak her şeyin açık olduğunu, kullanılan materyallerin çok faydalı ve öğretici olduğunu söyleyebilirim."

"In general, I can say that everything was clear and the materials used were very useful and instructive." (PST2)

- ***Subtheme: Process***

PST10: "Sizin her beceri alanı için belirlediğiniz aktivitelere örnek uygulama seçimleriniz, ders planlarını nasıl oluşturduğunuz ve nerelere dikkat etmemiz gerektiği konusunda gösterdiğiniz ve örnek olarak bize sunduğunuz materyaller bizi aslında hep bir ötesine götürdü bu eğitim sürecinde."

"In this training (modelling) process, the sample application choices for the activities you (the researcher) have determined for each skill area and the sample materials you (the researcher) demonstrate for how you (the researcher) create lesson plans and your (the researcher's) highlights on where we should pay attention (in lesson planning) have taken us (PSTs) one step further." (PST10)

PST11: "Ayrıca sadece eğitimin teorik olarak kalmayıp hem sınıfta hocamızın örnek dersler işlemesi hem de eğitim sonunda bizim de yaptığımız örnek derslerle aldığımız eğitimi daha da pekiştirmiş olduk."

"Not only the training was theoretical, but also our teacher (the researcher) taught exemplary lessons in the classroom and at the end of the training, we also reinforced the training we received with the micro-teaching lessons we did." (PST11)

PST6: "Eğitim sırasında uygulamalı olarak gösterilmesi uygulamaların amacının ve kullanımının kafamda daha çok oturmasına yardımcı oldu."

"Practical demonstration during training helped me understand the purpose and use of the mobile applications better." (PTS6)

PST3: "Eğitimin son haftasında küçük gruplar halinde mikro öğretimler gerçekleştirdik. Son haftaki uygulama kısmından sonra M-MALL uygulamaları hakkında bazı şeyler kafamda daha net hale geldi."

"In the last weeks of the training, we conducted micro-teaching in small groups. After the last week's implementation part, things about M-MALL applications have become clearer in my mind." (PST3)

PST7: "Ayrıca eğitim sonunda gruplar halinde yapmış olduğumuz örnek derslerle bu süreçte edindiğimiz bilgilerin ön pratiğini yapmış olduk. Arkadaşlarımızın yaptığı örnek derslerin de katkı sağladığını söyleyebilirim çünkü bu derslerle farklı bakış açılarını da görerek fikir sahibi oldum."

"At the end of the training, we have done the pre-practice of the information we have acquired in this process with the micro-teaching lessons we have done in groups. I can say that the micro-teaching lessons our friends have made also contributed, because I got ideas by seeing different perspectives with these lessons." (PST7)

PST10: "En son hazırladığımız ders anlatımı sayesinde kendimizi daha çok olayın içinde yer almamızı sağladı bu süreçte verilen geri dönütler ve yorumlar içeriği daha net anlamımızı sağladı."

"The last micro-teaching lesson we prepared has enabled us to be involved in M-MALL more, and the feedback and comments given in this process provided a clearer understanding of the concept." (PST15)

PST10: "Uygulamalar 7 gruptan oluşmaktaydı ve her grubun kendi içerisinde ilişkilendirilmiş aktiviteler ile desteklenmesi biz de daha anlamlı ve kalıcı bir öğrenme gerçekleştirdi diyebilirim."

"The applications consisted of seven groups, and supporting of each group with associated activities also led to a more meaningful and permanent learning." (PST10)

The Quotations of Perceptions of feelings towards training

- ***Sub-theme: Self-content***

PST15: "Sadece üniversite hayatımda değil, öğretmenlik hayatım boyunca bana faydalı olacak bu eğitimi aldığım için kendimi şanslı ve sorumlu hissediyorum."

"I feel lucky and responsible for receiving this education that will benefit me not only in my university life, but also throughout my teaching life." (PST15)

Perceptions Towards M-MALL Integration

The Quotations of Contributions of M-MALL on EFL learners' learning

- ***Sub-theme: Positive Attitudes Towards English***

PST4: "Öğrenciler uygulamayı (HP Reveal) önceden kullanmadıkları için karşılaştıkları duruma şaşırdılar çünkü bir kitap sayfasından video açtıklarını gördüklerindeki yüz ifadeleri oldukça eğlenceliydi ve gözlemleyebildiğim kadarıyla hepsinin çok hoşuna gitti."

"The students were surprised since they hadn't used the application (HP Reveal) before. The facial expressions when they saw them open a video from a book page were pretty fun and they all liked it as far as I could observe." (PST4)

PST16: "Kahoot uygulaması tüm öğrenciler tarafından sevilen bir uygulama. Öğrencilerin soruları cevaplarken puan toplamaları onları bir yarışın içine sokuyor ve daha katılımcı öğrenciler ortaya çıkıyor."

"Kahoot is an application loved by all students. Collecting points while students answer questions puts them in a race and increase their participation." (PST16)

PST7: "Öğrenciler için, öğretirken eğlendiren, eğlendirirken de konuyu veya kelimeleri daha kalıcı hale gelmesini sağlayan güzel, derse ve konuya uygun bir uygulamaydı (Cram)."

"For the students, it was a nice and subject-appropriate application (Cram) that entertained while teaching and made the subject or words more permanent while entertaining." (PST7)

PST3: "Konumuz sosyal medya bağlantılı olduğundan ve arkadaşım da çocukların ilgi alanlarına giren başlıklar seçtiğinden öğrenciler uygulamayı (Padlet) kullanırken çok eğlendiler. Toplu halde fikir paylaşımı yaparak birbirlerinin cevaplarına sesli şekilde dönütler verdiler."

"The students had a lot of fun while using the app (Padlet), as our topic is connected to social media and my friend chose topics that are of interest to children. They gave audial feedback to each other's answers by sharing ideas collectively." (PST3)

PST14: "Çoğu kişi uygulamayı (Flipgrid) indirdiler ve beğendiler. Özellikle derste telefon kullanımına şaşırdılar yani. İzin var mı dediler. Evet demiştik."

"Most people downloaded the app (Flipgrid) and liked it. Especially, they were surprised by the use of the phone in class. They asked if there is permission. We said yes." (PST14)

PST6: "Dersin monotonlaşmasını engelleyerek öğrencilerin ilgilerinin artmasını sağlayan eğlenceli bir uygulama olduğunu düşünüyorum."

"I think it is a fun application (Kahoot) that allows students to increase their interest by preventing the course becoming monotonous." (PST6)

PST4: "Öğrenciler için eğlenceli ve dikkat çekici bir aktivite oluyor bu sayede öğrenciler hem eğleniyor hem de ders içi katılımları bir anda artıyor. Sınıf ortamı da eğlenceli bir hal alıyor."

"It is an enjoyable and remarkable activity for the students, so both the students have fun and their participation in the class increases. The classroom atmosphere becomes fun." (PST4)

PST13: Onun haricinde M-MALL mobil uygulamalarıyla çocukların ben sadece ders anlamında veriminin olumlu yönde etkilenmesinin yanı sıra sosyal doyuma ulaştıklarını düşünüyorum Çünkü öğrenci alışılagelmiş bir şekilde kitaptan yaptığı etkinlikler doğrultusunda almış olduğu pekiştireçler çok artık onlar için sıradan pekiştireçler haline gelmiş. Ama kendi bireysel telefonları üzerinden bu etkinliği başardıklarında farklı bir uygulama içerisinde aynı zamanda bunu başardıklarında ve dönüşünde verdiğimiz bu pekiştireçler onları ciddi anlamda güdüledi. Yani öğrenci bir şeyi bilmiyorsa da bizden fikir alarak arkadaşlarıyla bir şeyler konuşarak tartışarak bir şeyler yazmak için orada bir şey üretmek için çaba gösterdi… 4 hafta boyunca da dediğim gibi doğru uygulamalar doğru aktiviteye Entegre edildiğinde hem öğrencinin dersleri verimini arttırmada hem de sosyal doyuma ulaşmasında bence oldukça etkili oldu….. Öğrenci hiç alışık olmadığı bir şeyden bir şey yapabildiğini gördüğünde bu bunu sosyal olarak, arkadaş çevresinde de kendi içerisinde de, olumlu yönde etkiliyor. Yani çocuk şöyle bir algıya düşmüş oluyor. "Ya işte kendi telefonumdan, hiç bilmediğim bir şeyi başarabildim. Böyle bir sosyal doyum içerisine girebiliyor *bence.*

> *"With the M-MALL mobile applications, I think that students are not only positively affected in terms of their efficacy in lessons but also achieve social satisfaction, because the reinforcements that the student has received from the book in the usual way have become ordinary reinforcers for them. But when they succeeded in these (M-MALL) activities through their individual phones and these reinforcements we gave in return motivated them seriously. In other words, even if the student did not know anything, he took ideas from us and made an effort to produce something there to write something by discussing with his friends ... For 4 weeks, when the right practices were integrated into the right activity, I think it was very effective in both increasing the productivity of the students and achieving social satisfaction ... When the student sees that he / she can do something from a tool that he / she is not used to, this affects him/her in a positive way, both in the circle of friends and within himself / herself. So the child falls into such a perception: "I was able to accomplish something I never knew, from my own phone." I think, in this way, the student can have social satisfaction." (PST13)*

PST10: "Okuma parçasının seslendirilmiş bir şekilde var olması, eş zamanlı videolar ile desteklenmesi, dikkati sağlayan sorularla zenginleştirilmesi onun basit bir uygulama olarak görülmesini engelliyor bence… Daha aktif, daha üretici ve dersin bir parçası olarak sürekli kullanımı halinde öğrencilerde bugüne kadar var olan "İngilizce dersi zor/öğrenemiyorum" algısını yıkabilecek potansiyelde bir sistem (Edpuzzle) olabileceğini düşündüm."

> *" I think the existence of the reading text in a voiced form, the support with simultaneous videos, and enrichment with questions that provide attention, prevents it (Edpuzzle) from being seen as a simple application. I thought, it could be a system that could potentially eliminate the perception of" English lesson is difficult / I cannot learn" that has existed until today, if it is used more actively, more productively and continuously as part of the lesson." (PST10)*

PST16: "Canva birçok fotoğraf ve simgelerle öğrencilerin kafasındakini bir görsele dönüştürmesini ve ilgilerini çekmelerini sağlıyor. Bu sayede öğrenciler İngilizce' ye daha pozitif bakıyorlar. Ayrıca derste telefonlarını kullanıp poster hazırlamaları onların motivasyonunu bir hayli artırıyor."

"First of all, Canva enables us and students to prepare high quality presentations and posters with a very simple and useful interface. With many photos and icons, it allows students to turn what is on their mind into an image and attract their attention. In this way, students view English more positively. In addition, using their phones and preparing posters increase their motivation considerably." (PST16)

PST14: "Bu ders esnasında öğrenciler Recap uygulaması kullanırken çok eğlendiler ve ders sonunda "öğretmenim bitmesin dersimiz, bir sonraki ders devam edebilir miyiz" gibi cümleler kurdular. Bu öğrencilerin eğlendiklerini gösteriyor. Bu tarz uygulamalar öğrencileri motive ediyor ve derse olan ilgilerini arttırıyor. Bu yüzden ders esnasında bende eğlendim."

"During this lesson, the students had a lot of fun using the Recap application, and at the end of the lesson, they formed sentences such as 'let's not finish my teacher, can we continue the next lesson?' This shows that the students have fun. Such practices motivate students and increase their interest in the course." (PST14)

PST10: "Öğrenciler çoğu zaman cevaplamaktan kaçınacakları sıradan soruları bu uygulama sayesinde cevaplamak istiyor, hatta doğrusunu bulmak için üzerinde düşünüp oyunda en iyisi olmaya çabalıyorlar."

"Students want to answer questions that they will often avoid answering through this application (Kahoot). They even think about it to find the right answer and try to be the best in the game (Kahoot)." (PST10)

PST13: "Çocuklar arasında rekabet vardı ama birkaç öğrencinin 1. Olmaktan ziyade doğrusunu öğrenmek için hırslandığını gördüm, bu beni daha çok sevindirdi."

"There was rivalry among the EFL learners, but I saw that a few students were more ambitious to learn the correct answers than to be # 1, which made me even more happy." (PST3)

- ***Sub-theme: Active Participation***

PST2: "Derste öğrencilerin uygulamaya aktif bir şekilde katıldığını görmek beni çok mutlu etti. Öğrenciler birbirlerinin yorumlarına İngilizce cevaplar verdiler ve bütün eklediğim postlara yanıtlar verdiler."

"I was very happy to see that the students actively participated in the lesson with the application (Padlet). The students responded to each other's comments in English and responded to all the posts I added." (PST2)

PST10: "Bu aplikasyonların sınıf içerisinde etkileşimi arttıran, derste öğrenciyi aktif kılan ve İngilizce dersi için öğrenciler üzerinde olumlu etkiler bırakıracak öneme sahip olduklarını düşünüyorum. Hp Reveal ile öğrenciler hem görsel hem de işitsel olarak etkileşimde iken Recap uygulaması ile de konuşma

becerileri açısından yeterliliklerini ortaya koymaya çalışmaktadırlar. Baktığımızda öğrenci merkezli bir sisteme uygulamaların öncülük etmiş olduklarını söylemek mümkün."

"I think that these applications (HP Reveal, Recap) have the importance of increasing the interaction in the classroom, making the student active in the lesson and leaving positive effects on the students for the English lesson. With HP Reveal, while students interact both visually and aurally, they try to reveal their competencies in terms of speaking skills with Recap application. When we look at it, it is possible to say that these applications lead a student-centered system." (PST10)

PST16: "Recap konuşma becerilerini geliştirmede kullanılan bir uygulama. Bütün öğrencilerin konuşmasını sağlama konusunda çok yardımcı. Hem bütün öğrencilerin konuşmasını sağlıyor hem de bütün öğrencilerin kendilerini geliştirmeleri amacıyla nasıl konuştuklarını görme şansı veriyor."

"Recap is an application used to improve speaking skills. Very helpful in making all students speak. It allows all students to speak and gives them a chance to see how all students speak to improve themselves." (PST16)

PST16: "Benim için Flipgrip'in en öne çıkan özelliği bir öğrencinin konuşabileceği süre içerisinde bütün öğrencilerin konuşabilmesi ve bunların hepsinin öğretmen tarafından çok kolay ve basit bir yolla değerlendirebilmesidir."

"For me, the most prominent feature of Flipgrid is that all students can speak while a student is speaking, and all of them can be evaluated by the teacher in a very easy and simple way." (PST16)

PST13: "Bizde de öyle örnekler oldu, yani mentör hocamız söyledi mesela, derse katılmıyordu ama sizin dersinize katılmaya çalıştı. Bir şeyler yapmaya çalıştı dedi. Tabi bizim de bu hoşumuza gitti."

"For instance, our mentor said that one of the students do not normally participate in the activities, but he tried to attend our class. She (mentor teacher) said he (the student) tried to do something. Of course, we liked this." (PST13)

PST10: Kesinlikle öğrencilerin derse katılımını arttıran, İngilizce dersini daha zevkli ve anlaşılır şeklinde tanımlayabilecek özellikte bir uygulama (Kahoot) olduğunu düşünüyorum. Öğrenciler çoğu zaman cevaplamaktan kaçınacakları sıradan soruları bu uygulama sayesinde cevaplamak istiyor… Aynı soruları öğrencilere birebir sorduğumda bu kadar etkili geri dönüşler alamadığım durumlar oldu. Fakat bu uygulama ile öğrencilerin çoğu derse istekli bir şekilde katıldı.

"I definitely think that it is an application (Kahoot) that increases the participation of students in the lesson and can make the English lesson more enjoyable and understandable. Students often want to answer the questions, which they normally avoid from answering, thanks to this application… When I asked the same questions to the students in person (without an M-MALL tool), I did not get such effective answers. But with this application, most of the students attended the lessons willingly." (PST10)

- ***Sub-theme: Attention***

PST2: “Uygulamada (Plickers) yapılan quiz dersin konusu ile bağlantılıydı. Öğrenciler quiz esnasında çok heyecanlı ve motive idiler. Bu uygulama her öğrencinin derse katılımını sağladı. Öğrenciler ellerinde kartlar ile yeni soruları heyecanla ve merakla beklediler.”

“The quiz in the application (Plickers) was linked to the topic of the lesson. Students were very excited and motivated during the quiz. This application enabled every student to participate in the lesson. The students waited eagerly and excitedly for the new questions with their cards in their hands.” (PST2)

PST14: “Bir tane kız öğrencim, haftaya, öbür hafta geldiğimizde hemen ailesine anlatmış o gün okulda ne yaptığını, geldik tekrar bana anlattı “aileme söyledim, ailem de değişik buldu”. Dedik ki, bu uygulama da en basit kahoot uygulamasıydı bu arada ama en basit bile onlar için gerçekten çok farklı geliyor. Çünkü telefonlarını kullanıyorlar, tahtada görüyorlar. Yani arkadaşlarıyla birazcık challenge gibi oluyor. Ve Kahootta mesela nick name olayı var o onlarda çok ilgi çekiyor.”

“One of my female students, when we came next week told me that she had told her family (about M-MALL integrated lesson and Kahoot) and her family found it different. This application was the simplest Kahoot application by the way, but even the simplest sounds really different for them. Because they use their phones, they see it on the board. So it's a little bit like a challenge with her friends. And there is a nick name thing for Kahoot, for example, it attracts a lot of attention.” (PST14)

PST16: “Birçok fotoğraf ve simgelerle öğrencilerin kafasındakini bir görsele dönüştürmesini ve ilgilerini çekmelerini sağlıyor.”

“With many photos and icons, HP Reveal allows students to visualize the concepts in their minds and attracts their attention.” (PST16)

PST10: “Resimlerdeki gizli videolar onlara ilginç geliyor ve odaklanmalarını sağlıyor (HP Reveal).”

"Hidden videos in pictures are interesting to them and keep them focused (HP Reveal).” (PST10)

- ***Sub-theme: Creativity***

PST10: “Öğrenci uygulamayı (Canva) kullanırken kendini rahat hissediyor, hayal güçleri ile birlikte ortaya yaratıcı posterler çıkıyor.”

"The student feels comfortable using the application (Canva), creative posters come out with their imaginations.” (PST10)

PST8: “Öğrencilerin yaratıcılıklarını gerçekten fark ediyoruz biz bu uygulamalarla mesela benim hiç beklemediğim bir öğrenci, ben motto istedim. O kadar güzel yazmış ki, hazırlamış falan Canva da, dedim maşallah dedim sende de ne cevherler varmış öğrenciye.”

“We really notice the creativity of the students with these practices. For example, a student I never expected wrote (a motto/ slogan) so well that he prepared with Canva, I said well done..” (PST8)

- ***Sub-theme: Confidence***

PST2: "Öğrencilerin kendilerine bir nickname seçmeleri öğrencilerin kendilerini güvende hissetmelerini sağlıyor (Kahoot)."

"When students choose a nickname for themselves, it makes students feel safe (Kahoot)." (PST2)

PST9: "Flipgrid öğrencilerin konuşma becerilerini geliştirmelerini sağlarken onlara bir kereden daha fazla hak verdiğini düşünüyorum. Ders esnasında öğretmenin sorduğu bir soruya o anda yanlış cevap verebilir ve bunun geri dönüşü olmaz ama bu uygulama sayesinde videoyu beğenmezse ya da yanlış bir şey söylerse tekrar video çekme şansı bulunmakta. Bu sayede öğrencilerin hevesleri kırılmayacak ve özgüvenli bir şekilde konuşma becerilerini geliştirebilecekler."

"I think Flipgrid gives students the chance (to speak) more than once while improving their speaking skills. During the lesson, you can give a wrong answer to a question asked by the teacher at that moment and this is irreversible, but thanks to this application, if he does not like the video or says something wrong, there is a chance to record a video again. In this way, students will not be discouraged and will be able to develop their speaking skills confidently." (PST9)

PST8: "Öğrencilerin öğrendikleri yeni bir uygulamayı (HP Reveal/Flipgrid) farklı alanlarda kullanabileceklerini belirtmeleri etki yarattığını gösterdi."

"The fact that the students stated that they could use a new application (HP Reveal / Flipgrid) they learned in different areas showed that it was effective." (PST8)

PST4: "Canva öğrencilerin yaratıcı düşünme becerisini geliştiriyor ayrıca verilen konu hakkında araştırma yapmalarını sağlıyor. Böylece öğrenciler konu hakkında detaylı bilgi sahibi oluyor."

"Canva improves students' creative thinking skills and enables them to do research on a given topic. Thus, students have detailed information about the subject." (PST4)

- ***Sub-theme: Easiness in Learning***

PST3: "Padlet, beyin fırtınası yaptırmak, ders öncesinde öğrencileri konuya ısındırmak, ekip çalışmasına ortam hazırlamak, tüm fikirlerin bir arada görülmesini sağlamak ve akran düzeltmesine olanak sağlamak için kullanılabilecek oldukça faydalı bir uygulama"

"Padlet is a very useful application that can be used for brainstorming, warm the students to the subject before the lesson, prepare the environment for teamwork, see all of the ideas together and allow peer correction." (PST3)

PST3: "Warm up kısmında uygulama amacına hizmet ettiği için mutlu oldum. Uygulama (Padlet) benim bir sonraki aktiviteye geçişimi kolaylaştırdı.

"I was happy that it (Padlet) served the purpose in the warm up part. The application made it easier for me to move on to the next activity." (PST3)

PST11: "Öğrencilerin istedikleri zaman tarayıp bilgiye sürekli olarak ulaşmasına olanak sağlaması olumlu yönleri arasında gösterilebilir (HP Reveal)."

"The fact that students scan whenever they want and allow them to access information continuously can be shown among its positive aspects (HP Reveal)." (PST11)

PST8: "Ayrıca genel kültür olarak öğrencilerin farklı bilgiler e ulaşmasını sağlıyor (HP Reveal)."

"It (HP Reveal) also enables students to access different information as general culture." (PST8)

PST4: "Konuyu anlatırken o konuyla ilgili video koyma fikrinin iyi bir fikir olduğunu düşünüyorum. Çünkü hem öğrencilerin derse karşı ilgi ve tutumlarının arttığını aynı zamanda da duyu ve algı sistemlerini daha iyi kullandıklarını düşündüm (HP Reveal)."

"I think it is a good idea to post a video on that topic while explaining the subject, because I thought that both students' interest and attitudes towards the lesson increased and they used their sensory and perception systems better (HP Reveal)." (PST4)

The Quotations of Contributions of M-MALL on the lesson

- ***Sub-theme: Effective***

PST14: "Yorum kısmında bir tane öğrenci video ile diğer arkadaşının videosuna yorum yaptı. Bu onları daha motive ettiğini gördüm ve yanlış cümle kursalar bile onları İngilizce konuşmaya teşvik etti (Flipgrid)."

"One student commented on his friend's video with a video in the comment section. I found it more motivating and encouraging for them to speak English even if they spoke ungrammatically (Flipgrid)." (PST14)

PST2: "Öğrenciler birbirlerinin yorumlarına İngilizce cevaplar verdiler ve bütün eklediğim postlara yanıtlar verdiler (Padlet)."

"The students replied to each other's comments in English and replied to all the posts I added (Padlet)." (PST2)

PST7: "Warm- up kısmında Padlet kullanıp çocuklara bir önceki hafta öğretilen kelimeleri hatırlatmayı amaçladım. Kelimeleri resimlerini üstüne yazmıştım İlk önce kelimelerin resimlerini gösterip, çocuklarla bunları 1 kez tekrar ettik. Daha sonra aynı padletin sadece resimlerini kullanarak çocuklardan bu resimlere ait 'suçları' yazmalarını istedim. Çocuklar kelimelerin hepsini hatırlıyordu ve böylece daha çok pekiştiğini düşünüyorum."

"In the warm-up section, I aimed to remind children of the words I taught the previous week by using Padlet. I wrote the pictures of the words on top. First, we showed the pictures of the words and repeat them with the children once. Then, using only the pictures of the same Padlet, I asked the students to write 'crimes' for these pictures. The children remembered all of the words, so I think the words were reinforced." (PST 7)

PST13: "Arkadaşım dersin tüm aşamalarını tamamladıktan sonra konunun pekişmesini sağlamak amacıyla bu uygulamayı kullandı ve oldukça başarılı oldu."

"After completing all the stages of the lesson, my friend used this application (Cram) in order to summarize the subject and it was very successful." (PST13)

PST14: "İkinci uygulamam Cram idi. Bu uygulamayı çocukları ders sonunda biraz rahatlatmak ve birazda eğlendirmek istediğim için seçtim. Çünkü ders boyunca zor kelimeler öğrendiler ve öğrendiklerini oyun ile beraber pekiştirmiş oldular."

"My second application was Cram. I chose this application because I want to relax and amuse the students at the end of the lesson, because they learned difficult words throughout the lesson and reinforced what they learned with this game." (PST 14)

PST16: "Öğrencilerin kitapta gördüğü çoğu zaman anlamlandıramadıkları resimleri onlar adına anlamlandırmak için o görsellerle alakalı bir video eklenmesi öğrenciler açısından oldukça yararlı."

"It was very useful to add pictures or videos through this application (HP Reveal) to get them understand the topics they could not relate in their course books." (PST 16)

PST11: "Videoyu izlerken aralarda soru sorarak direk öğrenciden geri dönüt alma imkanın olması ve belli bir süre erişilebilirlik sağlanması uygulamayı daha cazip hale getirdiğini düşünüyorum."

"While watching the video, I think that having the opportunity to get feedback directly from the student by asking questions and providing accessibility for a certain period of time makes the application (Edpuzzle) more attractive." (PST11)

- ***Sub-theme: Multimodality***

PST10: "Hp Reveal uygulaması öğrencilere sanal gerçeklik sunmak için ideal bir uygulama. İmkân dâhilinde olmayan durumları bu uygulama sayesinde kolaylıkla öğrencilere sunabiliyoruz. Bir nevi simülasyon tekniğini çok rahat entegre edebiliyoruz."

"The HP Reveal app is the ideal app to present virtual reality to students. With this application, we can easily present situations that are not possible. We can easily integrate a simulation technique." (PST8)

PST10: "Öğrencilerin derslere daha ilgili olmasını, belki de sınıf ortamını günlük yaşam ile bağdaştırmasını sağlayan ve anlamlı öğrenmeyi ortaya çıkartan bir sistem (Edpuzzle)."

"It (Edpuzzle) is a system that allows students to be more interested in classes, perhaps linking the classroom environment with daily life and revealing meaningful learning." (PST10)

PST13: Konu hakkında soru hazırlamanın yanı sıra uygulamaya (Kahoot) görsel ve video eklemekte öğretimi daha etkili kılıyor.

In addition to preparing questions on the subject, adding visuals and videos to the application (Kahoot) make teaching more effective. (PST13)

- ***Sub-theme: Suitable for Evaluation***

PST13: "Öğrencilerin ön bilgilerini kontrol etmek için, konu veya ünite değerlendirmelerinde bu uygulama kolaylıkla kullanılabilir."

"This application (Plickers) can be easily used in subject or unit evaluations to check students' prior knowledge". (PST13)

PST12: "Öğrencilerin cevaplarını anında görebilmek ve dönüt çok güzeldi, kimlerin doğru yanlış yaptığını görmek de mutlu etti ve dersin sonunda konuyu anlayıp anlamadıklarını görmek de iyiydi (Kahoot)."

"It was good to see the students' answers instantly and the feedback was very nice, I was happy to see who did it right and it was good to see if they understood the subject at the end of the lesson (Kahoot)." (PST12)

PST4: "Edpuzzle kullanarak hem öğrencilerin konuyu daha iyi anlamasını hem de sorularında öğrencilerin verdiği cevaplara bakarak kimin neyi nasıl ya da ne kadar öğrendiğini ölçme açısından oldukça etkili bir uygulama olduğunu düşünüyorum."

"We can both help students understand the subject better and measure who has learned what, how much, by looking at the answers given by the students. I think that Edpuzlle is a very effective application in this respect." (PST4)

- ***Sub-theme: Economic***

PST3: "Arkadaşım hem konuyu hem de aktivitelerini 3 farklı pano üzerinde gösterdi. Bu yönden Padlet oldukça ekonomik bir uygulama. Arkadaşım dersinde hem zamandan tasarruf etti hem de sadece telefona ve internete ihtiyaç duydu."

"My friend showed the subject and his activities on 3 different boards. In this respect, Padlet is a very economical application. My friend both saved time and just needed the phone and internet in his class." (PST3)

PST16: "Recap'te öğrencilerin sadece ad soyadlarını ve sınıf kodunu girerek sınıfa katılmalarına olanak sağlıyor. Bu da zamandan tasarruf etmemizi sağlıyor."

"Recap allows students to participate in the class by simply entering their name and class code. This allows us to save time." (PST16)

PST4: "Öğrencilerin bir şey yaratırken karton, resimler vb. materyaller kullanmadan zaman kaybetmeden tasarım ortaya koyabilmeleri oldukça etkili ve çizim, kesim, yapıştırma gibi hazırlık aşamalarını da ortadan kaldırdığı için zaman kullanımı açısından oldukça faydalı (Cram)."

"The ability of students to produce designs without wasting time and without using materials such as cardboard and pictures while creating something is very effective and very useful in terms of using time as it eliminates the preparation stages such as drawing, cutting and pasting (Cram)." (PST4)

PST11: "Hızlı bir not alma ya da poster yapımı için oldukça kolay olduğunu düşünüyorum. Ayrıca ücretsiz bir şekilde diğer kişilerle paylaşma imkânı olması da ayrı bir artı yönü diyebilirim (Metamoji Note)."

"I think it's pretty easy for quick note-taking or poster making. In addition, the ability to share it with other people for free is another plus aspect (Metamoji Note)." (PST11)

Effects of M-MALL on PSTs' feelings

- ***Sub-theme: Positive Feelings***

PST7: "Flipgrid uygulaması kullanılırken, öğrenciler video da neler söylemeleri gerektiğini tartışırken ki halleri insanı mutlu ve motive ediyor. Onların bir şeyler için çabaladığını görmek, senin verdiğin emeğin boşa gitmediğini görmek ve ortaya çıkardıkları ürünleri izlerken hem onların yüzlerinde oluşan ' biz yaptık ' ifadesi öğretmen olacak bizleri -beni- hem gururlandırıyor hem de bu meslekteki isteğimizi arttırıyor diye düşünüyorum."

"When using Flipgrid application, the students' discussing what to say in the video makes me happy and motivated. To see them strive for something, to see that your effort is not wasted, and to watch the products they produce, the expression of 'we did' on their faces make us both proud and increase our desire in this profession." (PST7)

PST10: "Öğrencilerin oyunu kazanmak için soruları kısa sürede ve doğru şekilde cevaplayabilmek amacıyla sarf ettikleri çabayı görünce gerçekten mutlu oldum. Öğrenci - öğretmen etkileşiminde işlenen dersler çok daha farklı oluyor. Bu durum sadece öğrenci için değil aynı zamanda öğretmen için de çok önemli. Bunun bir kez daha farkına varmış oldum. Onların derse katılması, istekli olmaları benim de ders esnasında daha iyi hissetmemi sağladı." (Kahoot)

"I was really happy to see the students' efforts to answer questions quickly and correctly to win the game. Lessons in student-teacher interaction are very different. This situation is very important not only for the student but also for the teacher. I've realized this once again. Their willingness to attend made me feel better during class." (PST10)

PST16: "Onların bu kadar hevesli ve yaratıcı olmaları benim de teknolojiyi yararlı ve doğru bir şekilde kullanma isteğimi artırdı. Çağımız gereği teknolojiyle büyüyen çocukların, bu konuda ne kadar iyi ve etkin olduklarını görmek beni şaşırttı."

"Their enthusiasm and creativity increased my willingness to use technology in a useful and correct way. I am surprised to see how good and effective the children, who are growing with technology in our age, are at using them (M-MALL mobile applications)." (PST16)

- ***Sub-theme: Negative Feelings***

PST3: "Dersin başında öğrencilerin uygulamayı (Edpuzzle9 indirmemiş olmaları arkadaşımı tedirgin etti. Bu nedenle ben de kendimi biraz gergin hissettim. Sonrasında öğrencilerin uygulamayı ders esnasında indirmeleri ve istekli bir şekilde katılım sağlamaları beni mutlu etti."

> *"At the beginning of the course, my friend was upset that the students had not downloaded the application (Edpuzzle). So I felt a little nervous. After that, I was happy to see the students download the application during the lesson and to participate willingly." (PST3)*

Prerequisites of M-MALL integration

- ***Sub-theme: Appropriateness of the application***

PST11: "Öğrencilerin telefona ihtiyacı olmaması ve telefonda tarama yaparken de internete gerek duyulmaması internet ve telefon kullanımın sınırlı olduğu durumlarda kullanıma uygun bir uygulama (Plickers) olduğunu düşünüyorum."

> *"I think it is an application (Plickers) suitable for use when students do not need a phone or do not need the internet while browsing on the phone." (PST11)*

PST15: "Metamoji uygulaması kullanımı sürecinde internet gerektirmeyen bir uygulama ve bu bir avantaj olarak değerlendirilebilir."

> *"Metamoji Note is an application that does not require internet and this can be considered as an advantage." (PST15)*

PST12: "Padlet aracılığıyla sanal bir pano oluşturup istediğiniz bilgileri bu panoya yazabilirsiniz. Ayrıca öğrencilerinizden fikirler alabilir, onlara beyin jimnastiği yaptırtabilir, listeler oluşturtabilir, bir tartışma ortamı yaratabilirsiniz."

> *"You can create a virtual dashboard through Padlet and write the information you want to on this dashboard. You can also get ideas from your students, have them do mental gymnastics, create lists and an environment for discussion. I think it is a useful application in this respect." (PST12)*

PST11: "Mobil uygulamaların en büyük sorunlarından biri olan her işletim sisteminde yer almama sorununu bu uygulamada (Metamoji Note) görmüyoruz. Google PlayStore' dan hem de AppStore'dan erişilebilir."

> *"We do not see the problem of not functioning in every operating system, which is one of the biggest problems of mobile applications, in this application (Metamoji Note). It can be accessed from Google PlayStore and AppStore." (PST11)*

- ***Sub-theme: Familiarity with the application***

PST1: “Son dersimiz olduğu için kendimizi rahat hissettik artık hem gözlem hem de kendi ders anlatmamızla bu mobil uygulamalara aşina olduk ve normal bir derste kolaylıkla kullanabilecek seviyeye ulaştık (Cram).”

"We felt comfortable as it was our last lesson, and now we became familiar with these mobile applications (Cram) by both observing and teaching (M-MALL lessons) and we reached a level that we can easily use in a normal lesson.” (PST1)

PST7: “Ancak, bu hafta anlatmam ve öğrencilerin ne yapmaları gerektiğini anlamaları daha kolay ve daha akıcı bir şekilde ilerledi. Hem benim tecrübe kazanmamdan dolayı hem de sınıf dinamiğinin farklı olmasından dolayı böyle bir gelişme yaşandığının düşünüyorum (HP Reveal).”

“However, this week my lesson and students' understanding of what they have to do has been easier and more fluent. I think such a development has occurred both because of my experience and because of the difference in class dynamics (HP Reveal).” (PST7)

PST11: “Daha öncede bu uygulamayı kullandığım için derste kullanıma hala uygun olduğunu düşünüyorum. İlk hafta birkaç zorluk yaşamıştım. Uygulamanın (Metamoji Note) bazı aşamaları zor gelmişti. Fakat 2. Kez kullanınca daha kolaylaştığını ve derse daha kolay entegre edebildiğimi fark ettim.”

“Since I have used this application before, I think it is still suitable for class use. I had a few difficulties the first week. Some stages of the application (Metamoji Note) were difficult. But when I used it for the second time, I realized that it got easier and I could integrate it into the lesson more easily.” (PST11)

PST11: “Flipgrid günümüz öğrencileri için aslında yeterince aşina oldukları bir uygulama türü diyebilirim. Instagram gibi birçok uygulamadaki story özelliğine benzer olması öğrencilerin ilgisini çekmesi için yeterli olduğunu düşünüyorum.”

“I can say that Flipgrid is actually a type of application that today’s students are very familiar with. I think its similarity to the story feature in many applications such as Instagram is enough to attract students' attention.” (PST11)

Problems in M-MALL integration

- ***Sub-theme: Technical Problems***

PST3: “Dersin işlendiği saati, öğrenci profilini ve sınıf dinamiğini de göz önünde bulundurunca Mindomo kullanımı oldukça zordu.”

“Mindomo was very difficult to use, considering the time of the course, student profile and classroom dynamics. During the main activity using the M-MALL application, the students could not understand what to do and this caused some confusion. Class management has become difficult.” (PST3)

PST5: "Uygulama (Canva) ile alakalı olarak öğrencilerin birbirlerinin posterlerini görmesini istiyordum. Bu uygulama bana bunu tam anlamıyla sağlamıyordu."

"I wanted the students to see each other's posters. This application (Canva) did not provide me with this." (PST5)

PST11: "Karşılaştığım sorun bazı özelliklerde upgrade istemesiydi (Plickers). Soru setlerinin 5 soruyla sınırlı olması gibi."

"The problem I encountered was that it (Plickers) wanted to upgrade some features. Like the question sets are limited to 5 questions." (PST11)

PST16: "EdPuzzle'ın seslendirme kısmında kendi yaptığım seslendirmenin sadece öğretmen girişi ile dinlenebildiğini uygulamayı hazırladıktan sonra farkettim. Bunun sonucunda videoya seslendirmeyi başka bir program ile yaparak EdPuzzle'a o videoyu yükledim böylece sorun çözüldü."

"After I prepared the application, I realized that my own voice in the voiceover part of EdPuzzle can only be heard with the teacher account. As a result, I uploaded the video to EdPuzzle by doing a voiceover with another program so that the problem was solved." (PST16)

- ***Sub-theme: Student-related problems***

PST16: "Bir tane arkadaşımızın dersinde oldu. Biraz böyle hafiften küfür içerikli şey vardı, tahtaya yansıdı ve bunun nedeni de padlette giriş yaparken bir mail adresi ile ya da facebookla olsun bir sosyal hesap aracıyla giriş yapmak yerine anonim olarak giriş yapmaya izin vermeden bir olay. Çocuk oraya "anonim nasıl olsa, gözükmeyeceğim" diye gönderiyor. Yani bu da dikkat edilmesi gereken bir konu diye düşünüyorum."

"This happened in one of our friends' lesson in class. There was a little bit of blasphemy, it was reflected on the board, and this is because it is an application that allows you to log in anonymously instead of logging in with an e-mail address or a social account when you log in to the Padlet. The kid thought that he would not be seen, he was anonymous anyway. I think this is an issue that needs attention." (PST16)

PST7: "Bu hafta ders anlatırken kullanmayı tercih ettiğim uygulama Edmodo'ydu. Kullanma amacım ise çocuklardan Edmodo ile 'Writing' çalışması yaptırmaktı. Uygulamam amacına kısmen ulaştı diyebilirim. Uygulamayla ilgili bir sıkıntı olmadı ancak çocuklar yazma konusunda isteksizdi. Bu da dersin daha az verimli geçmesini sağladığını düşünüyorum."

"Edmodo was the app I preferred to use this week to teach. My aim was to have a writing study with one of the children, Edmodo. I can say that my practice has partially achieved its purpose. There was no practical problem, but the children were reluctant to write. I think this makes the course less efficient." (PST7)

- ***Sub-theme: School-Related Problems***

PST7: "Sırayla öğrencilerin yanına gidip açıklama yapıp nasıl giriş yapmaları gerektiğini gösterdim. Bu aşama biraz zaman aldığı için kalan süre de çoğu öğrenci e-maili ya tamamlayamadı yada yazmaya vakti kalmadı. Bu tarz writing çalışması tek bir dersle değil de en az 2 ders işlenildiği zaman veya 2 ders boyunca vakit ayrıldığı zaman hem her öğrenciye ulaşan hem de daha verimli geçen dersler olacaktır diye düşünüyorum. Bu açıdan çocuklar tam anlamıyla tek bir derste writing becerisinde pratik yapma imkânı bulamadılar."

> *"I went near the students one by one and explained how to make it. Since this phase took some time, most students either did not complete the e-mail or did not have time to write. I think that this type of writing should not be in a single lesson, but at least two lesson-time should be allocated, then they will be productive. In this respect, children did not have the opportunity to practice writing skills in a single course." (PST7)*

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Selected Academic Studies

Büyükkarcı, K & Zeybek, G. (2016). A study on receptive vocabulary knowledge of Turkish young learners. Papaja, K., & Can, C. (Eds.). Language in Focus:

Exploring the challenges and opportunities in Linguistics and English Language Teaching (ELT). Cambridge Scholars Publishing.
Zeybek, G. (2018). Turkish EFL Pre-Service Teachers' Motivation and Attitudes towards Pronunciation Instruction. SDU International Journal of Educational Studies, 5(1), 22-34.
Zeybek, G. (2018). Turkish EFL Pre-Service Teachers' Views on Integrating Various Literary Genres in Teaching English. Language Teaching and Educational Research, 1(1), 25-41.
Zeybek, G. (2018). The Acquisition of Dative Alternation and Markedness in Second Language Learning. Turkish Online Journal of English Language Teaching, 3 (2), 26-41.
Baykal, N., Sayin, I., & Zeybek, G. (2019). The Views of ELT Pre-Service Teachers on Using Drama in Teaching English and on Their Practices Involved in Drama Course. *International Journal of Contemporary Educational Research*, *6*(2), 366-380.
Zeybek, G., & Tunçer, M. (2020). A Qualitative Study on Graduate Students' Feelings and Problems in Turkish ELT Context. Eurasian Journal of Teacher Education, 1(2), 148-171.